

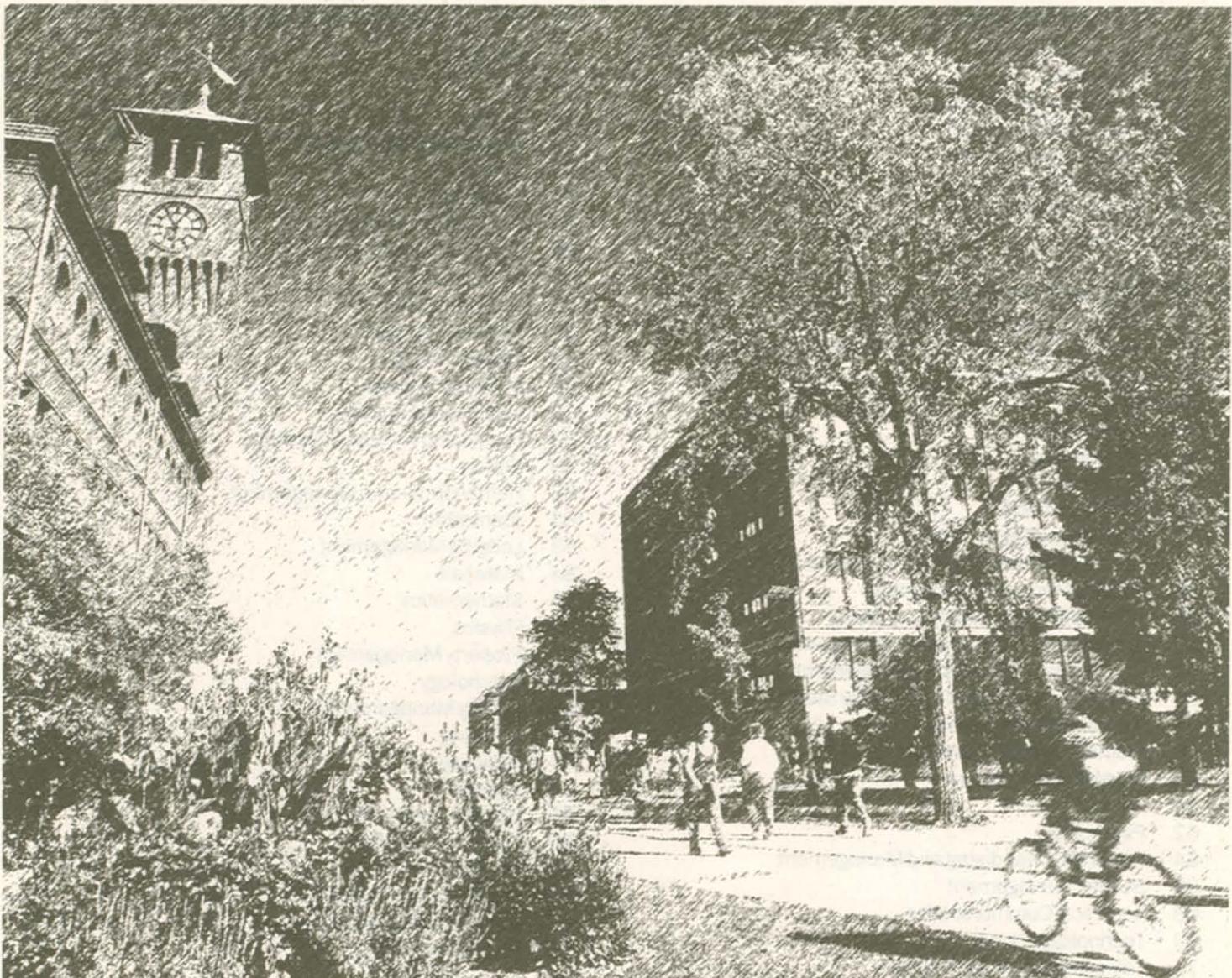
Undergraduate Bulletin 2001–2003



STOUT
UNIVERSITY OF WISCONSIN



Undergraduate Bulletin



University of Wisconsin-Stout Menomonie, Wisconsin

An Equal Opportunity and Affirmative Action University

For additional information about
the university write to:

Admissions Office
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University of Wisconsin-Stout
Menomonie, WI 54751-0790
or call: 1 800 44 STOUT

The Undergraduate Bulletin was prepared
according to the best information available
as of Summer 2001. All information
regarding fees, admission, graduation
requirements and course offerings is subject
to change. The most current information is
available online at:

<http://www.uwstout.edu/ugbulletin/>

**North Central Association of
Colleges and Secondary Schools**
Commission on Institutions of Higher Education
30 North LaSalle Street, Suite 2400
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or call: 1 800/621-7440

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General Information



The University



To Prospective Students

Welcome to UW-Stout! This bulletin describes programs and courses offered by the university. It provides fee, financial aid and housing information. We invite you to visit the campus. Discussions with staff members may help you reach your decision. If possible, write or call for an appointment to visit UW-Stout.

The number is **1 800 44 STOUT**.

UW-Stout

UW-Stout is one of 13 publicly supported universities in the University of Wisconsin System. It was founded as a private institution in 1891 by James H. Stout. A Menomonie industrialist and a man of great vision, he saw that students in America's developing industrial society needed a different kind of education, an education broader than that offered by the traditional curriculum. Since its founding, UW-Stout has gained a position of national leadership in its specialized areas. Although UW-Stout is a career-oriented university, the humanities, social and natural sciences are key parts of the total educational program.

UW-Stout's Special Mission

UW-Stout, as a special mission institution, serves a unique role in the University of Wisconsin System. UW-Stout is characterized by a distinctive array of programs leading to professional careers focused on the needs of society. An undergraduate degree in manufacturing engineering, and undergraduate and graduate degrees in the study of technology, applied science, art, industrial management, human behavior, and home economics are presented through an approach to learning which involves integration of theory, practice and experimentation. Extending UW-Stout's mission into the future requires that instruction, research and public service programs be adapted and modified as the needs of society change.

The Faculty and Academic Staff

Because UW-Stout has specialized in certain areas, we have developed a staff of individuals nationally recognized in their fields. All classes are taught by the faculty and academic staff except for a small number of laboratory courses which are taught by highly qualified graduate assistants. The student-teacher ratio is about 21:1. Of a staff of 397 (*full- and part-time*), approximately 77 percent hold doctorates or terminal degrees (*full-time only*). The faculty's commitment to provide extra help to students is one of UW-Stout's proudest traditions.

Students

In terms of enrollment, UW-Stout is not a local or state school. Its 7,700 students come from 24 states and 30 nations. Students have a major voice in the affairs of the university and sit on important university committees. Besides regular and informal meetings with students, the university's chancellor has an "open door policy." More than \$200,000 in student activity funds are administered by student government. There are more than 120 student clubs and organizations on campus, including national fraternities and sororities.

Facilities

Modern and well-equipped facilities mark UW-Stout's 110-acre campus. We are proud of our laboratory-intensive programs. More than 300 laboratories are available for study and research in the areas of electronics, power, industrial management, industrial design, industrial graphics, packaging, plastics, graphic communications and telecommunications.

Laboratories are maintained for the study of food science, dietetics, hospitality, tourism, interior decorating, retail merchandising, clothing and textiles design, human development, and family and consumer educational services. Studios and laboratories support programs in art, graphic design, industrial design, interior design and multimedia design. Specialized computer laboratories support the applied mathematics and computer science program. Historic Harvey Hall houses a 600-seat auditorium, home to Stout's theatre company.

The Stout Vocational Rehabilitation Institute provides research and practicum experience for students in the vocational rehabilitation program. Students work with professionals at the institute to provide services for clients referred by state agencies.

Located in the center of the city of Menomonie, adjacent to the downtown business district and Lake Menomin, UW-Stout offers an attractive, convenient and accessible campus setting.

The Community

Located in scenic western Wisconsin, Menomonie has a population of approximately 14,900. The area's natural beauty, with lakes, rivers and hills, provides many year-round recreational and sports opportunities. Major entertainment and cultural activities are available on campus, in the community and in the Twin Cities, about an hour away.

Admissions

Information for All Applicants

This section provides general information for degree-seeking students. If you wish to take classes for professional or personal development, you need only read the section titled "Special Students."

If you will be taking classes to work toward a degree, you must apply for admission to the university. You can obtain a UW System Application for Admission form by writing the director of Admissions at UW-Stout, contacting any Wisconsin or Minnesota high school guidance office, or online at <http://www.apply.wisconsin.edu>.

UW-Stout accepts applications as early as September 15 for admission to the following fall term. There is no deadline for applications; however, we are limited in the number of students we can accept. New freshmen may declare a major on the application form or apply as "undeclared." Transfer students must declare a major. When a program is full, we cannot admit more students to that major. Some majors are filled as early as 10 months in advance of the fall semester.

Keep in mind that you may also have to meet entry standards set by a school or department. See the sections on the individual programs for more information.

If you do not meet the standards for admission, you may be placed on a waiting list and will be considered for admission only if space is available in your chosen major. You will be notified no later than May 1 if you have been admitted. If you do not qualify for admission, you may appeal for special consideration through the director of Admissions.

UW-Stout will keep you informed of pertinent changes at the university. If you have the chance to study part time elsewhere, you will be able to check the transferability of your course work to UW-Stout by contacting the university's Admissions Office.

Notice: You must provide the university with accurate information about your personal and educational history. UW-Stout's policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Admission Categories

Admission procedures and standards vary somewhat from group to group. Following is a definition of each category. Find the category that applies to you, then find the section for that category (pages 4-7) for information on what you will need in order to be admitted to UW-Stout.

Freshmen: graduates of high schools in the United States and those who will be graduating, who have not attended another university or technical college or school after high school.

UW System transfer students: applicants who have attended another university in the UW System and wish to transfer to UW-Stout.

Technical college transfer students: applicants who have attended a technical college or school and wish to transfer to UW-Stout.

Other transfer students: students who have attended a university outside the UW System and wish to transfer to UW-Stout.

Re-entry students: students who have attended UW-Stout in the past and wish to again take classes at the university.

Special students: students (*including those still in high school*) who wish to further their education, but are not seeking a degree from UW-Stout.

Youth Options: high school students who wish to take university courses under the Youth Options program. Students must apply both through their high school and UW-Stout for permission to enroll.

International students: students from countries other than the United States, who wish to attend UW-Stout.

Auditing Classes

If you are not concerned about receiving college credit for courses you take, you may audit classes. Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for nonresidents is 50 percent of the normal fee. Senior citizens age 60 or older by the first day of class only pay textbook and lab fees for audit credits.

You may audit classes provided that you apply for admission, the class teacher approves your request to audit the class, you pay any special costs for course instruction other than the normal tuition, and the university will not be required to provide additional classroom or laboratory space for you, and will not realize increased instructional costs.

You will receive only provisional permission to attend classes until course registration is completed. You may not change your admission status and take the course for credit once the class has started. A course which has been audited may not be retaken for credit. You will be subject to Regent, university and student government regulations, just like students who are taking courses for credit.

Note: As with all students attending the university, special students and auditors must provide UW-Stout with accurate information about their personal and educational history. The university policy is that students who intentionally falsify or omit information given as part of their university record will be suspended.

Freshmen:

1. Applications and transcripts may be submitted as early as September for admission the following fall, or early March for the following spring semester. UW-Stout enrollments are limited, so it is important that you plan and apply early.
 2. You must be a graduate from a recognized high school or equivalent.
 3. You must have a minimum of 17 high school college preparatory credits with the following distribution:
 - four credits of English (*may include speech*)
 - three credits of mathematics (*Algebra I and higher*)
 - three credits of science
 - three credits of social science
 - two credits from the above areas, or foreign language
 - two credits from the above areas, or fine arts, computer science and other academic or vocational areas.
 4. You must provide evidence that you are prepared to do satisfactory work. UW-Stout requires that you graduate in the top 50 percent of your class, or have a cumulative score of 22 or better on the American College Test (ACT) or a combined verbal and mathematics score of 1030 on the Scholastic Aptitude Test (SAT).
- UW-Stout provides special consideration for applicants who have served at least 180 days of active military duty, are at least two years out of high school, or have been disadvantaged as a result of substandard education, family income level, or ethnic background.
5. All freshmen must take the ACT or SAT; however, the test is not the only criterion for admission. The admission test requirement may be waived if you have been out of high school for two or more years, are age 21 or older, or are an international student.
 6. Applicants to the **Manufacturing Engineering** and **Applied Science** programs must meet the criteria above, *plus* rank in the upper 40 percent of their high school class, and have an ACT mathematics score of 22 or SAT math score of 510 or better. Applicants who are *not* in the top 40 percent of their high school class must have a 22 ACT composite and a 22 math score, or 1030 SAT score and a 510 math score.

Non-Traditional Admission Requirements Applicants lacking the necessary class rank or minimum composite ACT or SAT scores may be considered for admission if, on the basis of other factors, they appear to have a reasonable probability of success in college. Particular consideration will be given to applicants who have been out of school for two or more years, service veterans with at least 180 days of active duty, members of minority groups, and those educationally or economically disadvantaged.

Applicants with a GED or High School Equivalency Diploma may not normally be admitted unless they are a minimum of two years past their expected date of high school graduation. It is recommended that applicants have a GED examination average score of 50 or better to be considered for admission to the university.

UW System Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. You must have a cumulative grade point average of at least 2.00.
3. If you have fewer than 30 transferable credits and less than a 2.00 cumulative grade point average, you are still admissible to UW-Stout if you would have been admissible as a new freshman, or if you would have been eligible to continue at UW-Stout had you achieved your existing academic record here. You will be placed on a waiting list and admitted on probation if space is available. You will be notified no later than May 1.
4. UW-Stout has a joint admission policy with the UW System Colleges. If you choose to participate in this program, you are guaranteed admission to UW-Stout, provided you meet the provisions of the policy.

UW System College counselors can help you select course work that will relate to your planned major at UW-Stout. Under UW System policy, you may transfer up to half the number of credits required for graduation in your major at UW-Stout.

Applied Science and Manufacturing Engineering Transfer Applicants

Applicants to the Applied Science and Manufacturing Engineering programs must meet either the criteria as listed for Freshmen or the specific requirements for transfer students. These requirements may be obtained online at:

Applied Science <http://www.uwstout.edu/programs/bsas>

Manufacturing Engineering <http://www.uwstout.edu/programs/bsmfe>

or by contacting the Admissions Office at 715/232-1787.

Technical College Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. You must have a cumulative grade point average of at least 2.2 (*on a 4.0 scale*) at the institution you most recently attended. If your cumulative grade point average is greater than 2.0 but less than 2.2, you may be offered admission on probation or placed on a wait list and admitted at a later date if space permits.
3. If you are transferring from a technical college, UW-Stout will accept credits you have earned from Wisconsin technical college parallel programs, and similar programs from other states.
4. UW-Stout may accept up to 15 general education credits from non-college parallel two-year associate degree programs at Wisconsin technical colleges in social science, behavioral science and communications. In addition, up to two courses in math and/or natural science may transfer. These transfer credits must be approved by the appropriate UW-Stout academic department.
5. UW-Stout has identified many associate degree programs that are not college parallel, but follow a professional development pattern similar to programs at the university. If you're transferring from such a program, UW-Stout may accept some of your technical credits.
6. Credit earned from institutions which are fully accredited, or candidates for accreditation, are fully transferable. Credits from institutions accredited by a professional accrediting association may transfer in the specialty of accreditation if recommended by the appropriate academic department.

Other Transfer Students

1. The university will need an official transcript from each post-secondary institution you have attended. Applications and transcripts may be submitted as early as September for admission the following fall, and early March for the following spring semester. Apply early so you can register for classes and complete the financial aid application process. UW-Stout enrollments are limited, so it's important that you plan and apply early.
2. Because the enrollment is limited, the university may give preference to students transferring from UW System institutions, up to the limit of our enrollment targets.
3. The required grade point average is the only difference in policy for transfer students from institutions outside the UW System. You must have a cumulative grade point average of at least 2.20 (*on a 4.0 scale*) at the institution you most recently attended.
4. If your cumulative grade point average is above 2.00 but lower than 2.20, you may be offered admission on probation or placed on a wait list and admitted at a later date if space permits.
5. Credit earned from institutions that are fully accredited, or candidates for accreditation, are fully transferable. If you are transferring from an institution accredited by a professional accrediting association, the academic department you are entering will determine if credits in a specialty area will apply to your major.

Articulation Agreements

UW-Stout maintains program articulation agreements with various technical and community colleges in Wisconsin and neighboring states. If you are a student enrolled in an A.A.S. or A.A.A. program and considering a transfer to UW-Stout, call the Admissions Office at 715/232-1411 or check online at <http://www.uwstout.edu/admissions/transfer.html> for the most up-to-date listing of program agreements.

Re-entry Students

There are two types of re-entry students: **Regular re-entry students** are those who have completed no transferable credits from any post-secondary institution since they last attended UW-Stout. **Transfer re-entry students** are those who have completed transferable credits at a post-secondary institution since they last attended UW-Stout.

Regular re-entry students:

1. You need to complete the UW System Application for Admission form and return it to the Admissions Office. If you left the university in good standing, you will be immediately readmitted to the university in the program that you left, or as undeclared, as enrollment management goals allow.
2. If you left on academic probation, you may be readmitted on academic probation, if there is room for you in your chosen program.
3. The director of Admissions or a designee will review applications from re-entry students who were academically dismissed from the university. If the application for readmission is denied, the decision may be appealed to the University Committee on Admissions and Credits.

Transfer re-entry students:

1. You must submit official transcripts from each institution you attended, as well as a completed UW System Application for Admission form. If you left the university in good standing or on probation, you will be readmitted in the same status, provided you are eligible to return to the institution you last attended, and provided enrollment management goals have not been reached.
2. If you left UW-Stout because of academic dismissal, but earned a grade point average of 2.00 or better at your most recent school, you may be readmitted on probation, at the discretion of the director of Admissions or a designee.
3. If your grade point average is less than 2.00, you will be denied readmittance to UW-Stout. You may appeal that decision to the University Committee on Admissions and Credits.

Special Students

This diverse group of students may include midcareer professionals seeking certification for a changing technology, community members seeking courses for personal fulfillment, high school students taking classes not offered at a high school, guests and auditors.

1. To be admitted as a special student, simply indicate that status on the application for admission. You do not need to indicate a major, submit transcripts, take the ACT, or pay the application fee. High school students admitted as special students must gain the approval of their parents and their high school, and submit a high school transcript.
2. As a special student, you must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You are limited to six credits each semester (*exceptions must be approved by the Office of Advisement*).
5. You may request to change your status to degree-seeking student after you have completed 12 credits. You may accumulate a maximum of 29 credits as a special student.
6. If you decide to change your status and become a degree-seeking student, you will have to complete the application process required of new students—submit transcripts, pay the application fee, complete a change of major form, and submit ACT or SAT scores.
7. High school students who wish to take classes at the university must rank in the top 50 percent of their high school class or have an ACT composite score of 22 or better, or SAT of 1030.

Youth Options Program

The Youth Options program serves high school students who wish to take classes not offered at a high school.

1. To be admitted as a Youth Options student, simply indicate that status on the application for admission. You do not need to indicate a major, take the ACT or SAT or pay the application fee. You must gain the approval of your parents and your high school.
2. You must take the English and math placement tests before enrolling in an English or math course.
3. You are not eligible for financial aid.
4. You must rank in the top 50 percent of your high school class or have an ACT composite score of 22 or better, or SAT of 1030.

admission requirements

International Students

1. All potential international students should have better than average academic records.
2. All applicants must present the university with official copies of their academic record.

First-year students must send certified copies of certificates, diplomas or degrees earned. These official records must be equal to a United States high school (*secondary school*) graduation for consideration.

Transfer students must submit certified records of their post-secondary academic work. The records must show the courses the students have taken and the grades they have earned. The university will not grant credit for courses unless there is evidence that the students have satisfactorily completed them.

Credit may be granted to international students if the institution they attended is listed in either the International Handbook of Universities or the Commonwealth Universities Handbook. Credit from institutions not listed in these publications may be transferred only upon the recommendation of the appropriate department.

3. The university will deny admission to students who submit records with any alterations or irregularities.
4. Additional records presented after the student has enrolled will not be considered for transfer.
5. Students from non-English speaking countries are required to take the Test of English as a Foreign Language (*TOEFL*). Applicants will need a minimum score of 500 to enroll in full-time study.

For information on taking the *TOEFL*, write to:

- Test of English as a Foreign Language
Box 899
Princeton, New Jersey, USA 08540

The *TOEFL* will be waived if students have completed an ESL program from an accredited college or university or other program approved by UW-Stout.

6. All international students must show evidence that they have adequate finances to undertake a degree program at UW-Stout.

As a condition of admission, international students whose sponsors have a history of delinquency in payment of fees must place on deposit an amount approximately equal to the institution's non-resident tuition and fees for a 12-month period, which includes two semesters and an eight-week summer term. Applicants who must meet this requirement will be notified when the university receives their applications.

Questions about this policy may be addressed to the Office of Student Business Services or to the Office of International Programs.

Scholastic Standards

Student Handbook

The Student Handbook is available online at <http://www.uwstout.edu/shb/>. The handbook contains helpful information related to academic standards and campus policies, campus programs, rules and regulations, activities, organizations, and services. It is an official document of the university and contains many of the details not found in this bulletin. All students are subject to the rules and standards as they are presented in the handbook.

Semester Credit

UW-Stout expresses credit in semester hours. One credit represents the satisfactory completion of the work of one meeting a week for a period of one semester. A course having five meetings a week will usually give five semester hours of credit. In order to receive a degree, you must not only gain the required number of credits in the program you are pursuing, but also must attain a certain standard of scholarship. (See also "Suspension and Probation.")

Credit by Examination

You may be able to receive credit by demonstrating your competence through examination. External examinations include the College Level Examination Program (CLEP) and the Proficiency Examination Program (PEP). For further information on external examinations, contact the University Counseling Center.

You may also receive credit through the "test out" procedures developed by various university academic departments. For more information, contact the appropriate school or department office.

If you test out of a course, you will be charged a testing fee.

Credit Registration and Overload Policy

A normal semester credit load is 16 or 17 credits. Register only for those classes you intend to complete. Do not register for classes which conflict with other class(es).

Undergraduate students, with the exception of graduating seniors, will be restricted to 18 credits during the early registration. Once registration is completed, students may add credits up to a maximum of 20 during the add/drop period. A fee will be charged for any credits beyond 18.

You may seek a waiver of the 20-credit limit by appealing to your program director. If the program director approves an overload permit, you must file it in the Registration and Records Office.

During summer session, you may enroll for a maximum of one credit per week. Again, if you want to seek a waiver to the credit limit, contact your program director.

Retroactive Credit for Foreign Language

Students who earn a grade of "B" (3.0) or better in foreign language courses would also receive credit for the lower level foreign language course or courses associated with that course.

Math and English Placement

Remedial Placement Students who are not transferring credits in math or English must take the regional math and English placement tests. These are given around the state during the spring semester. Make-up tests are given in the summer at announced times. Students who place into remedial math or English must successfully complete the course by the end of 30 credits or they will not be permitted to register.

English Placement Students who perform well on the placement tests may be placed in an advanced English class (ENGL-111 Freshman English—Honors).

Advanced Placement UW-Stout grants credit for scores of three or greater on the College Board Advanced Placement test. In addition, students can receive credit for a specific course. For more information about advanced placement examinations, call the Office of Admissions at 715/232-1411.

Add/Drop Policy

Even with careful planning, you may find you have to add or drop a class after the semester begins. To comply with accreditation and financial aid regulations, UW-Stout has a published add/drop policy.

The following serves as UW-Stout's procedures for adding or dropping classes within the guidelines of the policy:

Students are expected to complete courses for which they register. Students who wish to adjust their class schedules may add or drop classes before the end of the second week of semester classes and before the end of the first week of quarter classes. Drops made during the first two weeks of a semester course or the first week of a quarter course will not appear on a student's transcript. If students deem it necessary to reduce their program after the normal (*two week*) add/drop period, they should do so as early as possible. A mark of "WS" or "WU" is given by the instructor and recorded on the student transcript for a course dropped after the add-period of a semester or quarter course but before the midterm date. After the midterm date, any withdrawal from a course is recorded as an "F." If extenuating circumstances warrant other consideration, an appeal may be made to the instructor of the course. Students who register for a course but do not attend the class and do not officially withdraw are given a mark of "F." Students who do not attend the first class meeting of a course, or who do not notify the instructor or department chairperson that they will be absent for special reasons, may at the instructor's option, be dropped from the course if, and only if, other students are waiting to enroll at that time. Students should consult the current term "timetable" for the official drop dates.

Grade Point and Symbols

Grade	Grade Points
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0.00
O	Outstanding (no grade points)
S	Satisfactory (no grade points)
U	Unsatisfactory (no grade points)
W	Withdrawal from school before midterm or grade assigned by registrar for an improper drop
I	Incomplete
CR	Credit (no grade points)
F	Fail
IP	In Progress (approved courses only)
AU	Audit – no credit awarded
NC	No Credit
WS	Withdrawal – Satisfactory Work
WU	Withdrawal – Unsatisfactory Work

Accommodating Religious Beliefs

UW-Stout honors individuals' religious beliefs. If scheduling of tests or other mandatory activities interferes with students' religious observances, students may request alternative arrangements.

Within the first three weeks of class, students must notify their instructors if there will be days or dates when their religious activities will prevent them from participating in academic events. For summer sessions or short courses, students must notify their instructors within the first week of class.

The university accepts, at face value, the sincerity of students' religious beliefs. Information students provide about their religion will be kept confidential.

Once instructors know of students' needs, they will be able to schedule make-up examinations or other course requirements, before or after the regularly scheduled examination or other requirement.

If students believe their religious beliefs have not been accommodated, they may file a grievance. For more information about the policy or the grievance procedure, contact the Dean of Students Office at extension 1181.

Procedure for Withdrawal from UW-Stout

Withdrawal should be undertaken only after serious consideration. If you intend to withdraw from the university, you must schedule an exit interview with the Advisement Assistance Center and complete a withdrawal form. If you fail to withdraw officially from the university, you will receive a grade of "F" in all your courses. Withdrawals after the midpoint of a term or course will generally result in "F" grades. (See the grading policy in Student Handbook Online at <http://www.uwstout.edu/regrec/grades.html>.)

Suspension and Probation

Grade point requirements for graduation vary by major. Minimum acceptable standards for retention are defined as follows:

1. First semester freshmen will be placed on probation if they achieve a grade point average less than 1.8 at the end of the semester. They will be suspended if their grade point average is less than 1.0 for the semester.
2. Second semester freshmen will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 1.9. They will be suspended if their grade point average is less than 1.0 for the semester.
3. Second semester sophomores or upper division students will be placed on academic probation if their cumulative grade point average at the end of the semester is less than 2.0. They will be suspended if their grade point average is less than 1.0 for the semester.
4. Students with two consecutive terms of probationary-level work will be dismissed unless they have a semester grade point average of 2.5 or better.

A student who has been declared academically ineligible to continue may request a hearing to appeal.

Requirements for Graduation

The semester credit hours required for graduation are stated under the program of study for each major. You are responsible for knowing and meeting the requirements for graduation. To fill the minimum residence requirement, you must earn the last 32 semester hours of credit (*64 grade points*) in residence at UW-Stout. One semester before graduation, you must file an Application for Degree card with the Registration and Records Office.

Graduation with Honors

In each graduating class, the selection of students for honors is based upon scholarship. Upon completion of a student's undergraduate work, a minimum cumulative grade point average of 3.2 in 60 or more credits must have been earned. The designations Cum Laude (3.2 – 3.499), Magna Cum Laude (3.5 – 3.799) and Summa Cum Laude (3.8 – 4.0) are used. For commencement purposes, the cumulative grade point average earned at the end of the semester preceding the commencement ceremony will determine recognition at the commencement ceremony. However, honors will be officially determined at the time of final graduation checkout. A transfer student who has from 32 to 59.5 credits earned at UW-Stout will be considered for honors if the student's prior school(s) records met or exceeded the appropriate standard. Honors will be listed on the student's transcript and will appear on the diploma.

Chancellor's Award

The Chancellor's Award recognizes undergraduate students who receive a semester grade point average of 3.5 or greater on 12 or more credits. A special Four Star Recognition Award will be given to students who attain a 4.0 average.

Financial Information

Fee Payment

You are expected to pay all fees according to the procedure outlined in the Student Handbook. Failure to pay fees may result in suspension. UW-Stout offers an opportunity to pay fees in installments. This program requires a down payment plus any past due amount or total payment at registration, whichever is less. The balance is due in additional monthly installments.

Semester Costs

Undergraduate fees are set by the University of Wisconsin Board of Regents and are subject to change. Semester fees for undergraduate students registered for 12 or more credits in 2001–02 were:

Resident	\$1,751.04
Minnesota Resident	\$1,847.04
Non-resident	\$6,143.04

These fees incorporate the usual student costs such as textbook rental, Student Center, student activity and health fees. However, the schedule does not include lab or material fees charged in some courses. All undergraduate students who enroll for more than 18 credits will be assessed a per credit fee for those credits.

Beginning Fall 2002 all new Freshmen will be provided a laptop computer as part of their tuition. The cost will be approximately \$500 per semester (\$1,000 per year).

Since we must prepare this bulletin far in advance, all tuition and fees, room and food rates, and other charges are subject to change without notice. Additional changes to the tuition and fee schedule are anticipated for 2002–2003. Current undergraduate costs are online at <http://www.uwstout.edu/admissions/costs.html>.

Minnesota Students

If you are a Minnesota resident and a new student at UW-Stout, you must submit a reciprocity application to Minnesota. Approval takes up to four (4) weeks. If approved for reciprocity, you will be charged at the Minnesota resident tuition rate. Applications are available at the Financial Aid Office and the Office of Student Business Services. The State of Minnesota has indicated that "reciprocity benefits will not be granted retroactively" and that "each student is responsible for the application process." Therefore, each new student must complete and mail a correct, signed and notarized application before the last day of the semester. Apply early to avoid complications. Students that have been in attendance at UW-Stout and have earned credits during the previous academic year will automatically have reciprocity renewed by the State of Minnesota. Reciprocity applications are available online at <http://www.mheso.state.mn.us>.

Students Auditing Classes

Wisconsin residents may audit classes for 30 percent of the normal per credit academic fee. The cost for non-residents is 50 percent of the normal non-resident fee. Senior citizens age 60 or older by the first day of class only pay textbook and lab fees for audit credits.

Refund on Fees

Withdrawal from semester courses generates refunds based on the following schedule: first and second week of classes, 100 percent; third and fourth week, 50 percent. After the fourth week, no refunds will be made. Refunds for room and food service charges are based on the date of withdrawal.

Graduation Fee

When you complete 110 semester hours of credit, you will be billed \$30 for the graduation fee. This fee pays for the diploma cover and other costs and accessories that go with the commencement exercises. It does not cover the cost of the cap and gown. You will be assessed this fee whether or not you attend commencement exercises.

Unpaid Obligations

Failure to meet financial obligations is a serious matter. Therefore, if you owe money to the university and fail to meet that obligation, UW-Stout may suspend you. A hold will be placed on your account and you will not be allowed to register or receive transcripts until your delinquent accounts are brought up-to-date. This includes such items as library fines, assessments for damages in laboratories and residence halls, as well as tuition and fees. Collection costs will be assessed on any unpaid charges owed to the university.

Financial Aid

Financial aid provides assistance to financially needy students, who without such aid, would be unable to attend college.

The philosophy for all need-based financial aid programs is that students and their families are primarily responsible for financing their education. Families applying for financial aid need to fill out a financial statement listing their income, assets and liabilities. Established federal and state formulas are used to determine a reasonable contribution from the student and family. State and federal financial aid is intended to meet education costs above that reasonable contribution.

Financial aid must be applied for annually. Financial assistance is awarded for the entire academic year. If you apply, you will be considered for all types of aid, including grants, work and loans.

UW-Stout's priority filing date is April 1 for the academic year starting in fall.

Applicants must submit a Free Application for Federal Student Aid and any other requested materials. In addition, summer applicants need to submit a supplemental summer application. All available federal and state aid will be direct credited to your account beginning the first day of class. Non-direct credit aid must be picked up and applied to your account in person in the Office of Student Business Services.

Check the financial aid web page at <http://www.uwstout.edu/finaid> for more complete information on grants, loans and student employment. Financial aid counselors are available for consultation. Stop at the Financial Aid Office, 210 Bowman Hall, if planning to visit the campus. Please call 715/232-1363 for an appointment.

Withdrawal Fee

You will be charged a fee of \$50 for a first-week withdrawal, and \$100 for any withdrawal during the second week.

Financial Aid Replacement and Refund Policy

Students on financial aid will not receive refunds until funds representing financial aid awards have been applied back to the respective financial aid programs. Be sure to check with Student Business Services to verify the impact of withdrawing and your responsibility for repayment of Financial Aid.

Undergraduate Scholarships

Merit-Based Freshman Scholarships More than \$100,000 is awarded annually to outstanding high school seniors through merit-based freshman scholarships. All entering freshmen are considered for these scholarships. Selection is based solely on academic merit without regard for financial need. Recipients are notified shortly after acceptance to UW-Stout.

Scholarship: Wisconsin Academic Excellence Scholarship

Award: \$2,250

Criteria: Selected by high school

Scholarship: National Merit Finalist

Award: \$2,000

Criteria: Automatically awarded to NMSQT Finalist

Scholarship: National Merit Semifinalist

Award: \$1,000

Criteria: Automatically awarded to NMSQT Semifinalist

Scholarship: Chancellor's Academic Honor Scholarship

Award: \$1,000

Criteria: Automatically awarded to those with top 5 percent class rank, an ACT score of at least 25, or an SAT score of at least 1140.

Merit-based scholarships are not cumulative. Students who qualify for more than one scholarship will be awarded the scholarship of highest value.

Stout University Foundation Scholarships The Stout University Foundation awards more than \$350,000 in scholarships for undergraduate and graduate students at UW-Stout. These scholarships are financed by the contributions of alumni, friends, parents, faculty, campus organizations, other UW-Stout staff, foundations and corporations.

No single factor will be responsible for an applicant receiving a scholarship. Factors which are considered include academic performance, teacher evaluation and comments, professional activities, extracurricular activities, community involvement, written statements, neatness and care in completing the application, and, in many cases, financial need.

Scholarship application forms are available from the Stout University Foundation, Louis Smith Tainter House, or from the Admissions Office, 124 Bowman Hall, beginning December 1. Completed application forms must be submitted to the Stout University Foundation by March 1.

The Scholarship Committee reviews applications and makes awards in the spring. Recipients are notified in May. Recipients are required to write a letter of appreciation to the scholarship donors before payment is made for tuition. A formal reception honors scholarship winners, donors, friends and family the first week of the fall semester.

For additional information about scholarships, contact the Stout University Foundation, Louis Smith Tainter House, 715/232-1256.

Other Scholarship Opportunities By investing a little time and energy, you can conduct your own scholarship search. Scholarships are often provided by community agencies, corporations, clubs, cultural groups, foundations, churches and civic groups. While many are not based on financial need, you will usually have to meet some criteria to qualify for funding—academic achievement, community activities, leadership, ethnic or racial heritage, athletic ability, or other guidelines.

High school guidance counselors can supply a list of some of the scholarships available in your region. Reference librarians may also be able to help you identify sources. But there are other possible sources of funding for your education:

- Find out if your parents' employers, professional organizations or labor unions offer scholarships.
- Contact regional civic organizations and ask about scholarships. The Chamber of Commerce, Rotary Club, Lions Club or other groups may have scholarship funds available.
- Review library resources that list financial aid sources.
- Contact groups in your community, including churches, veterans, industries and major businesses.
- Check with your program director or the dean's office for the school your degree program is housed in for private scholarship information.
- Contact the national office of your student professional organization for scholarship opportunities.

Not all scholarships are for large amounts of money, but any scholarship can help offset the cost of an education. Free scholarship searches can be found online at the financial aid web page at <http://www.uwstout.edu/finaid>.

Services for Students

Athletics

The intercollegiate athletic program emphasizes educational values for the participants and provides a laboratory for students in the coaching certification program. UW-Stout is a member of the Wisconsin Intercollegiate Athletic Conference (WIAC) and is affiliated with the National Collegiate Athletic Association-Division III. The university sponsors eight women's and six men's varsity teams. Women's teams include basketball, cross country, gymnastics, soccer, softball, tennis, track and field, and volleyball. Men's teams are baseball, basketball, cross country, football, hockey, and track and field. More information is available online at <http://www.uwstout.edu/athletics/>.

Education and User Services

Education and User Services, a unit of Technology and Information Services, provides computer hardware and software for student use.

Resources include approximately 200 Macintosh and IBM-compatible personal computers with a variety of software in the Campus Computing Laboratory (CCL), located in 184 Micheels Hall. The software supports instructional use in other laboratories and classrooms across the campus. The CCL is generally open 7:30 a.m. to midnight with extended hours late in semesters. The CCL provides workshops early in the semester for students who want to learn how to use the computers and software.

Access is also provided to the Internet, library resources and electronic mail. Use of the computers is free, but there is a minimal charge for printing in the CCL. Students with their own personal computers and modems can take advantage of dial-up access to campus computing resources.

Education and User Services also provides statistical analysis for students' research studies.

International Student Services

The special needs of international students are met through professional and referral services provided by the director of International Student Services. These services include confidential personal counseling on immigration matters, financial problems, academic questions, social customs and personal concerns. Other services which promote cross-cultural understanding include new student orientation, host family arrangements, problem solving and liaison activities in the university and Menomonie area community. More information is available online at <http://www.uwstout.edu/intlstu/>.

Involvement

You may choose from more than 120 student organizations and activities on campus, in areas as diverse as music, drama, journalism, religion, politics and recreation. Student organizations help students continually develop their interests. The university also has a complete recreation and intramural program for men and women.

Academic

Academic Honor Society
College of Arts and Sciences
 Alpha Psi Omega National Theater Honor Society
 American Society of Interior Designers (ASID)
 Applied Math Club
 Fine Arts Association (FAA)
 Graphic Design Association (GDA)
 Industrial Designers Society of America (IDS)
 National Art Education Association

Human Development

American Hospitality Professionals (AHP)
 Club Managers Association of America
 Council for Exceptional Children (CEC)
 Food and Beverage Distribution Association
 Food Systems and Technology Professionals
 Guidance and Counseling Club
 Hotel/Motel Management Association (HMMA)
 International Food Service Executive Association
 Menomonie Association for the Education of Young
 Children (MAEYC)
 Phi Upsilon Omicron
 Psi Chi
 Psychology Club
 Resort and Property Management Association (RPMA)
 Society for Human Resource Management (SHRM)
 Stout Association for Family/Consumer Sciences
 Stout Council on Family Relations
 Stout Student Dietetic Association
 Stout Vocational Rehabilitation Club
 Student Wisconsin Education Association

Technology, Engineering and Management

American Design Drafting Association
 American Industrial Hygiene Association
 American Marketing Association
 American Production and Inventory Control Society
 Apparel Design/Manufacturing/Association
 Association for Facilities Engineers
 DECA
 Epsilon Pi Tau
 Graphic Communication Exchange
 Institute of Packaging Professionals
 Retail Directions
 Sigma Lambda Chi
 Society for the Advancement of Management
 Society of Manufacturing Engineers
 Stout Information, Technology and Telecommunication
 Stout Typographical Society
 Stout Student Construction Association
 Technical Association of the Graphic Arts
 Technology Education Collegiate Association
 Women in Leadership

Greeks

Alpha Phi International Fraternal Organization for Women
 Alpha Phi Omega Service Organization
 Chi Lambda Fraternity
 Delta Zeta International Fraternal Organization for Women
 Gamma Sigma Sigma Service Organization
 Inter Fraternal Council
 Kappa Lambda Beta Coed Fraternity
 Panhellenic Council
 Phi Omega Beta Fraternity
 Phi Sigma Phi National Fraternity
 Sigma Sigma Sigma National Sorority
 Sigma Tau Gamma National Fraternity

Government

Graduate Student Association
 Inter-Residence Hall Association (IRHA)
 Stout Student Association (SSA)

Recreation and Sport Clubs

Alfresco Outing Club
 Alpine Ski and Snowboard Club
 Bowling Club
 Chain Reaction
 Footbag Club
 Martial Arts Club
 Paintball Club
 Rugby Club, Men's
 Rugby Club, Women's
 Soccer Club, Men's
 Stout Disc Golf Club
 Swim Club
 Ultimate Frisbee Club
 Volleyball Club, Men's
 UW-Stout Water Ski Team
 Women's Ice Hockey Club
 UW-Stout Wrestling Club

Multicultural and Special Interest

Black Student Union
 Breaking Boundaries
 Campus Music Productions
 Chispa
 College Democrats
 College Republicans
 Epsilon Tau Sigma National Veteran's Fraternity
 Family Weekend Committee
 For Your Entertainment
 Greensense
 Greenparty
 Habitat for Humanity
 Hmong Stout Student Association
 International Relations Club
 Organization of Adult Students Involved at Stout
 Stout Hand Drumming Club
 Students Participating in Representing Indian Tribes at Stout
 Ten Percent Society
 UW-Stout Auto Club
 Women in Leadership
 Women's Issues

Religious

Campus Crusade for Christ
 Chi Alpha/Christians in Action
 Catholic Newman Student Association
 Inter-Varsity Christian Fellowship
 Lutheran Student Fellowship
 Maranatha Christians Fellowship
 The Ministry
 Street Level Ministries
 Temple Shalom Synagogue
 Wisconsin Evangelical Lutheran Synod (WELS)
 United Methodist Campus Ministries
 United Ministries in Higher Education

Residence Halls

Antim-Froggett Residence Hall Association
 CKTO Hall Association
 Fleming Hall Residence Association
 HKMC Residence Hall Association
 Hovild Hall Residence Association
 JTC Hall Association
 National Residence Hall Honorary (NRHH)
 North Hall Student Council
 South Hall Council
 Wigen Hall Residents Association

Communication

Prometheus
 The Stoutonia

Learning Technology Services

Learning Technology Services (LTS) is a comprehensive media service unit that supports the instructional, research and service needs of the UW-Stout community. The primary mission of LTS is to assist faculty, staff and administration in the development and use of a broad range of available learning technologies to support on and off-campus course delivery.

A secondary mission is to offer these services in support of activities which, while not in direct support of instruction, are appropriate to the mission of UW-Stout. In addition, LTS maintains a partnership with UW-Extension to assist in the creation, enhancement, and delivery of distance education courses.

Media development services include video, audio, multimedia, graphics, photography and digital imaging and CD-ROM. Distance Education services include WONDER (DS-3), PictureTel (*compressed*), satellite uplinking, audio conferencing, ETN, WisLine, WisView, internet/world wide web and desktop video. Training services include media development, distance education and multimedia classrooms.

LTS also maintains and repairs classroom audiovisual equipment.

Library Learning Center

The Library Learning Center has a collection of more than a million items, including audiovisual items, periodicals and books. The computerized access system allows rapid searching for information, both in the library and from remote access points.

The library houses in-depth collections in UW-Stout's major fields of study, and wide electronic access to full text information databases. Two hundred workstations are available to access the Internet, World Wide Web and other databases. Friendly and knowledgeable library information specialists are available to assist users in their quest for information.

The library is open 92 hours per week with adjusted open hours in the summer and at times when no classes are offered. More information is available online at <http://www.uwstout.edu/lib/>.

Memorial Student Center

The Memorial Student Center is a "community center" for members of the UW-Stout community—students, faculty, staff, administration, alumni and guests. It is a place to get to know and understand one another. It also provides opportunities to learn through involvement and experimentation.

The center represents a building, an organization, and a program which supports and enhances the special mission of UW-Stout by providing quality facilities, services and programs to the university community.

The Memorial Student Center includes a staffed dining room and several self service dining facilities, a service and information center, student activities administration, the University Bookstore, and University Recreation which includes the recreation center, weight training and fitness, aerobics, intramurals and open recreation.

You are invited and encouraged to use the facility, services, programs and activities offered by the Memorial Student Center. For more information about our services, call 715/232-1431.

Residence Halls

Residence hall living will be a meaningful part of your life at UW-Stout. With the help of a professionally trained staff, students achieve their goals through a variety of social, educational and recreational activities. The university provides residence hall accommodations for approximately 2,900 students. The UW System policy requiring freshmen and sophomores (*59 credits or fewer who are not veterans, married or living with parents or guardian*) to live in university residence halls is strictly enforced.

We encourage you to apply for residence hall accommodations immediately after being accepted to the university. A residence hall contract will be mailed to you shortly after you are accepted.

We require a \$100 security deposit with each lease/contract. The deposit is applied to second semester fees. You will be notified of the date you may move into your room before classes begin each semester. The lease/contract is valid for the entire academic year.

UW-Stout offers several special interest floors such as smoke-free, alcohol-free, quiet study and upperclass. A few single rooms are available at an additional cost. You may request a special interest floor when you submit your residence hall lease/contract.

Our Fresh Success Hall houses only first-year students and is a special building designed to ease the transition for our new students.

Each 11' x 15' room is furnished with two single beds, dressers, study tables, chairs, bookcases and carpet. We permit computers, televisions, stereos and VCRs in the rooms as long as you comply with the regulations for their use. Televisions are also available for general use in the main lounge of each building. Each residence hall has a computer laboratory, vending areas, study rooms and a laundry room in the basement area.

All residence hall students contract for their meals with University Dining Service. A wide variety of dining plans is available. Coffee pots, hot pots and popcorn poppers with unexposed elements are permitted in student rooms. Microfridges (*refrigerator, freezer and microwave compact units*) are provided in all student rooms.

The Stout Student Association Office maintains a list of off-campus housing. If you plan to live off campus, you may find it useful to visit Menomonie to secure the type of housing you desire.

Student Services

Student Services is a network of programs that provide services designed to meet student needs in academic success, career development and personal skill building. Contact the Office of the Dean of Students at 130 Bowman Hall, or call 715/232-1181 for more information about any of these programs.

Advisement Assistance Center The Advisement Assistance Center is a "one-stop" information and assistance center for students, faculty and staff. Stop in or make an appointment if you have questions about new student orientation, identifying your faculty adviser, study skills, general advisement, information resources, change of major, or withdrawal from UW-Stout. The center works cooperatively with your faculty adviser and the Degree Audit Reporting System (DARS).

For more information, call 715/232-1465 or visit 11 Bowman Hall. Hours are 8 a.m. – 5 p.m., Monday through Thursday, and 8 a.m. – 4:30 p.m. on Friday.

New Student Orientation New Student Orientation aids students in their transition to the university. Programming includes important information about university services, social and cultural opportunities, academic expectations, advisement and registration for classes.

Advisement and registration for classes, which is considered the first part of orientation, takes place in May, June and July for students entering in the fall semester, and November and December for students entering in the spring semester. Parents are welcome to attend the registration program with their student. The majority of orientation programming occurs at the beginning of each semester, before the first day of classes, and is considered a student-only program.

For more information, call 715/232-1465 or visit 11 Bowman Hall.

Student Support Services – ASPIRE ASPIRE is a federally funded TRIO academic support program for post-secondary education students. Services are targeted toward first generation college students, limited income students, or students having a physical or learning disability.

ASPIRE programming provides educational, career and personal development activities for eligible students. The staff helps students monitor their academic progress and provide academic counseling and other services to help students achieve their academic and vocational goals.

For more information, call 715/232-2995 or visit 206 Bowman Hall or online at <http://www.uwstout.edu/aspire/>.

Academic Skills Program The Academic Skills Program is designed to help you improve your study skills and reading through individual help or through a one-credit course titled Reading Improvement and Study Skills (EDUC-280). Peer tutors provide writing assistance for writing assignments in any class.

For more information, call 715/232-1465 or visit 11 Bowman Hall. Hours are 8 a.m. – 5 p.m., Monday through Thursday, and 8 a.m. – 4:30 p.m. on Friday.

Volunteer Tutor Program Student volunteers, trained by the tutor coordinator, provide individual tutoring to peers through this program. The volunteers have been successful in the courses for which they tutor. The program targets selected courses that traditionally have proven difficult for students. Open laboratory hours are available.

For more information, call 715/232-3086 or visit 13 Bowman Hall.

Multicultural Student Services Multicultural Student Services provides programming and support to African-American, Native American, Latino and Southeast Asian students. The staff provides academic, career and personal counseling, and information and assistance with scholarships. Several cultural organizations are available for multicultural and other interested students. Multicultural Student Services also functions as a multicultural resource across campus.

For more information, call 715/232-1381 or visit 217 Bowman Hall.

Services for Students With Disabilities Students who require assistance due to a disability should contact the Office of Services for Students with Disabilities in a timely manner to assure that appropriate support and accommodation will be provided. Appropriate documentation of your disability and of needed accommodations must be provided to be eligible for services.

Services offered include, but are not limited to, taped textbooks, test accommodations and self-advocacy skill building. Staff members act as liaisons with faculty and other staff, provide referrals to appropriate campus and community resources, and assist students with academic support and registration for classes.

For more information, call 715/232-2995, or visit 206 Bowman Hall.

Returning Adult Student Services Returning adult students who have been absent from the educational system for a time should contact Student Services staff for assistance with academic, personal or adjustment issues related to returning to college.

For more information, call 715/232-5306 or visit 11 Bowman Hall.

Educational Talent Search Educational Talent Search is a federally funded program that provides academic, vocational and career services to students in grades 6-12 in 10 northern Wisconsin school districts promoting graduation and further education or training. Services include tutoring, study skills, personal development activities, and assistance in applying for admission to post-secondary education and for financial aid.

For more information, call 715/232-2457 or visit 307 Bowman Hall.

University Counseling Center College students face many developmental and personal issues. Everyone encounters dilemmas, decisions and personal questions that are difficult to answer. The University Counseling Center helps you find answers to these and other academic, social and personal questions.

Individual counseling, workshops and support groups are offered throughout the year to help the student build skills in decision-making, assertiveness, self-esteem, family relationships, communications, and management of anger, depression, eating disorders, time, stress and other personal challenges.

Testing services offered by the center include CLEP and PEP (see *Credit By Examination, page 8*), Miller Analogies Test, ACT Residual, interest inventories, Test of English as a Foreign Language (TOEFL), and personality tests. In addition, information and application forms are available for a variety of other tests, such as the GRE, SMAT, LSAT and NTE.

Confidentiality is strictly protected by state and federal statutes, as well as by the ethical standards of the American Psychological Association and other professional organizations.

To make an appointment, call 715/232-2468 or visit 410 Bowman Hall. Hours are 8 a.m. – 4:30 p.m., Monday through Friday.

Career Exploration Center Students who are unsure about their choice of major should visit the Career Exploration Center. It is a "one-stop" information center where you can learn more about yourself while exploring various career options and academic programs. The center offers a collection of computerized and printed resources on jobs, career outlook data, college catalogs and graduate school information. Walk-in service as well as individual appointments with career counselors are available. The Career Exploration Center is located in the Advisement Center in 11 Bowman Hall and is open from 8 a.m. to 5 p.m., Monday through Thursday, and 8 a.m. to 4:30 p.m. on Friday. For more information, call 715/232-5306.

Placement and Co-op Services Placement and Co-op Services are available for all students and alumni. Four full-time counselors can help you plan for future employment opportunities. Services include online registration and referrals, career conferences, campus recruitment, teacher fairs, workshops and one-on-one counseling. Placement of graduates and co-ops are a major emphasis at UW-Stout. Placement and Co-op Services maintains statistical reports on the employment of graduates.

More information is available from the Placement and Co-op Services Office, 103 Administration Building, 715/232-1601 or online at <http://www.uwstout.edu/place/>.

Alcohol and Other Drug Education Program The Alcohol and Other Drug Education Program (AODEP) offers groups, classes, special presentations, information, resources, intervention and other campuswide activities.

For more information, call 715/232-2468 or visit 410 Bowman Hall.

Student Health Services

All registered UW-Stout students are eligible for care at the Student Health Services. Clinical and educational services are funded by the student health fee which is included in the tuition and fee payment. Services include illness and injury care, health maintenance, immunizations, lab services, contraceptive options, confidential HIV/AIDS testing, and health education programming. Call for an appointment at 715/232-1314. Services are available from 7:45 a.m. to 4:30 p.m., Monday through Friday during the period when classes are in session. During WinTerM session, health services are available from noon to 4:30 p.m. Monday through Friday. Health services are not available during the summer. If you need urgent care during hours when the Health Services is closed, contact Red Cedar Clinic, 715/235-9671, or the Myrtle Werth Medical Center, 715/235-5531. All costs are the responsibility of the student.

Telecommunications and Networking

Telecommunications and Networking, a unit of Technology and Information Services, provides the campus with voice, data and video networking support (*for distance education*). The unit also maintains and repairs campus computing equipment.

Teleproduction Center

The Stout Teleproduction Center is a broadcast-level production facility which produces programming for Wisconsin Public Television and other state educational organizations and non-profit agencies. The center also provides services for satellite video conference origination.

Textbooks

Instructional Resources Service (IRS) provides required textbooks and other classroom resources with the exception of consumables such as small paperbacks, workbooks and laboratory manuals. These consumable materials may be purchased from the University Bookstore.

To use this service, students pay a rental fee included with their tuition payment based on the number of credits taken. Students may purchase any of the textbooks/resources in the IRS collection at anytime.

IRS is located on the west side, second floor, of the Library Learning Center.

If you have questions or are unable to access the textbooks/resources, call 715/232-2492 or -2617. Additional information is available on the library's home page at <http://www.uwstout.edu/lib/irs/>.

Veterans Service

The Registration and Records Office provides assistance to veterans. This office provides veteran students with current information on veteran's affairs, coordinates special educational programs for veterans, and maintains liaison with the Veterans Administration, Department of Veterans Affairs and the County Veterans Service Officers. All veterans receiving assistance must file the appropriate forms with this office to be officially certified to receive benefits.

For more information contact Veterans Service, Room 109 Bowman Hall, 715/232-2121.

Teacher Education

Professional Teacher Education

The Office of Teacher Education is responsible for all clinical programs, maintains appropriate student records, maintains appropriate records for accreditation and Wisconsin Department of Public Instruction program approval, and serves as a resource center for students, faculty, program directors and administrators. The director of the Office of Teacher Education is also the certification officer at UW-Stout.

Students can find complete curriculum for specific teacher education programs in this bulletin under:

- Early Childhood
- Family and Consumer Sciences Education
- Marketing Education
- Marketing Education – Business Education certification
- Technology Education
- Vocational Rehabilitation – Special Education certification

Undergraduate Teacher Education

"Pre-education" is the initial designation for all students interested in being a certified teacher through one of the above undergraduate education majors. Students will proceed through a series of benchmarks which will lead to initial licensure. Students must follow the procedures in this section to ensure graduation and certification in a professional education program. If, after reading this section, you have questions, please contact your program director or the director of the Office of Teacher Education, 715/232-1088, 267 Home Economics Building. The Wisconsin Department of Public Instruction makes periodic changes in teacher certification requirements that may affect programs. It is the student's responsibility to contact the Office of Teacher Education to make certain they have the most current information to assure a program plan that will allow certification.

Education majors proceed through three benchmarks.

1. Benchmark I: Acceptance into Teacher Education Program
2. Benchmark II: Prior to Student/Intern Teaching
3. Benchmark III: Program Completion/Initial Licensure

Criminal Background Checks

All applicants for undergraduate and graduate programs preparing practitioners for positions supervised or licensed by the Wisconsin Department of Public Instruction or the Wisconsin Department of Health and Family Services will be required to complete a Background Information Disclosure – Authorization and Waiver Record during Benchmark I. The student must pay the cost of the record check. The check, along with the Authorization and Waiver form and Background Information Disclosure form, must be brought to the Office of Teacher Education.

Note: The results of the background disclosure and record check will not constitute a condition of admission to the university; however, the results may affect the student's eligibility to move into Benchmark II: Prior to Student/Intern Teaching, and therefore affect program completion and licensure.

Professional Program Admission

To be a successful teacher, students need expertise in a subject area and fundamental pedagogical skills and competencies. Professional program admission ensures the meeting of standards in the profession. Students will start fulfilling the requirements for Benchmark I: Acceptance into Teacher Education Program as they take their first 40 credits. These credits will include completing the following:

- Introduction to program course
- Foundations of Education course
- Technology course

Requirements for Professional Program Admission:

Students will be approved to move into Benchmark II: Prior to Student/Intern Teaching when they have completed the following:

- A passing score on the Preprofessional Skills Test (PPST) in reading, writing and mathematics
- A minimum cumulative grade point average of 2.75
- A grade of "C" or better in English and speech requirements
- A background check
- A written personal philosophy of education
- An Electronic Portfolio containing work samples and reflections about their performance
- Application for Benchmark II: Prior to Student/Intern Teaching

Admission to Student Teaching

Student teaching is an extremely important and valuable part of the teacher preparation program. Program directors will provide students with outcomes to be achieved that focus on planning and preparation, classroom environment, instruction, and professional responsibilities.

The Application for Benchmark II: Prior to Student/Intern Teaching must be submitted to the Office of Teacher Education no later than October 15 if students plan to student teach the first semester of the following year, and no later than February 15 if students plan to student teach the second semester of the following year. Five copies of a resume, (*ten copies for Early Childhood majors*) and the tuberculosis shot verification form are due in the Office of Teacher Education the semester before student teaching.

Requirements for Benchmark II:

Prior to Student/Intern Teaching Requirements:

Compiled portfolio that includes:

- Resume
- Philosophy of education
- Reflections of teaching/learning that address UW-Stout teacher education framework and discipline specific content
- Completion of pre-clinical hours (*based upon 100 hours*)
- 2.75 GPA
- Completion of courses in the following areas:
 - Multiculturalism
 - Educational Psychology
 - Inclusion
 - Reading
 - Western/non-Western History or contemporary culture
 - Written and Oral Communication
 - Fine Arts
 - Social Studies
 - Biological and Physical Sciences
 - Humanities (*including literature*)
 - Classroom management
- Completion of program specific content, methods, curriculum and evaluation courses
- Successful completion of content knowledge exam

Teacher Certification

Teacher education programs at UW-Stout meet state teacher certification requirements in Wisconsin. Programs will likely meet certification requirements in many, if not all, other states. However, teacher certifications vary by state (*some require state history or other course work*) and requirements change periodically. Therefore, students contemplating teaching in another state may wish to clarify the acceptance of their program at UW-Stout with the state in which they plan to teach. Forms and information concerning the certification process are available in the Office of Teacher Education or online at <http://www.uwstout.edu/chd/ote/>.

Requirements for Benchmark III: Program Completion/Initial Licensure

- Ability to teach in the classroom and perform all the responsibilities of a teacher as indicated through student teaching experience at a basic to proficient level
- Completion of portfolio that gives evidence of success in meeting program outcomes
- Final check that all program requirements are met

Graduate Certification Programs

If you intend to enroll in a graduate certification program, refer to the Graduate Bulletin for the requirements to become a practicing professional.

Special Programs

Honors Program

The Honors Program provides additional opportunities to challenge yourself academically and to enrich your educational experience. The curriculum stresses learning and activity through integrated and complementary honors courses in the arts and sciences, family studies, education, and technology and offers enhanced learning opportunities to students with high academic potential.

Students in the upper tenth of their high school class or in UW-Stout's ACT scores will be invited to participate in the program. Students may also enter the program through the recommendation of a faculty member. Students must maintain a minimum 3.0 overall grade point average to continue in the program. An Honors Program adviser serves in addition to the degree program adviser. Students receive social support through the Academic Honors Society and through a faculty mentor program.

Honors Program requirements include 12 credits in addition to the major and general education requirements. These credits could be taken as electives in the degree program or as additional courses.

For more information, contact the Honors Program director at 715/232-1455.

Preprofessional Programs and Agreements

Professional schools have prescribed the nature and amount of course work to be completed as a prerequisite to their professional program of study for a particular vocation. UW-Stout offers opportunities for you to complete the preprofessional component of three professional fields—architecture, engineering and law—although we do not offer degree programs in two of these areas. With the exception of manufacturing engineering, you would not complete a degree at UW-Stout.

To ensure appropriate course selection for credit transfer, you should research the specific program requirements and exceptions for the school to which you intend to transfer before enrolling in courses at UW-Stout. An adviser can help match UW-Stout courses to those required.

Information on requirements at specific professional schools can be obtained at the University Counseling Center, the Library Learning Center, or from the preprofessional program adviser.

For additional information, call 715/232-5045.

The Co-op/Intern Program

Some degree programs require a co-op/intern experience, and it is a valuable option in many others. It provides an opportunity to work with professionals in your career area, before you graduate.

The program director approves a published job description before you begin the experience. You are awarded credit based on the length of the experience, the responsibilities given you, and the goals and objectives you carry into the job. Grades and credits are awarded by a university mentor.

A co-op or internship can be as short as one summer, or can last for a combination of semesters. For more information, contact Placement and Co-op Services, Room 103, Administration Building, 715/232-1601 or online at <http://www.uwstout.edu/place/>.

Field Experience Program

We encourage you to obtain part of your college education off the Menomonie campus through the Field Experience program. This program allows you to receive academic credit for learning related to your major or minor, while employed in an approved off-campus field position. Field experience requirements vary by major. In some cases, a co-op/intern position will satisfy this requirement. Most students use their summers to enroll in this program, but part-time work may also be permissible. For more information, contact the dean's office of the college that houses your major.

Industrial Work Experience

Students who have completed three years of skilled occupational experience beyond the learning level of a trade may earn a maximum of 24 semester hours of technical credit through examinations. Students with less experience may request examination in specific technical courses. If you wish to seek credit for skilled occupational experiences, present evidence of the required amount of work to the program director of Vocational, Technical and Adult Education in the College of Technology, Engineering and Management. Contact the program director shortly after registration to allow time for review of your materials and the examination.

Independent Study Program

The Independent Study Program allows you to design a limited number of courses yourself, to meet your individual goals. You begin by picking up an Application for Independent Study from the office of the associate dean of the college that houses the type of course you want. You identify the course objectives, methods and evaluation process, and submit it to an independent study coordinator for processing and approval. You'll work with an assigned independent study coordinator who provides counsel and help. Independent study topics are different from existing courses. Be sure to ask your program director if your proposed independent study may be used in your degree program.

Summer Session

UW-Stout conducts a 10-week summer session with classes varying in length from one week to eight weeks. You may earn up to 10 credits during the 10 weeks of summer session. The Summer Session Bulletin is available after March 1. A copy will be sent on request. We encourage you to pre-enroll in classes in April and May.

WinTerm

UW-Stout conducts a winter session between first and second semesters with credit-bearing classes varying in length. A preliminary WinTerm schedule is published in March. Pre-enrollment is encouraged.

Pigeon Lake

The UW System sponsors summer programs at the Pigeon Lake Field Station near Drummond in Bayfield County of northwestern Wisconsin. Station offerings include undergraduate and graduate courses in field biology, mapping, health and outdoor education, recreation, counseling, psychology and art. Class sessions vary from one to three weeks with some classes weekends only. Credit earned at the station is accepted as residence credit at UW-Stout. The field station is located in a natural outdoor laboratory among lakes, streams and forests. For more information, contact the registrar at UW-Stout or the director of the Pigeon Lake Field Station, UW-River Falls, 715/425-3348. Information is also online at <http://www.uwrf.edu/pigeonlake/>.

Stout Solutions • Continuing Education

UW-Stout has a tradition of providing educational opportunities on a local, regional, statewide and national basis as a commitment to the concept of lifelong learning.

Stout Solutions • Continuing Education coordinates off-campus educational activities. Off-campus credit and noncredit opportunities include:

1. Off-campus courses offered in the rural local service area of UW-Stout, as well as statewide, based on our special mission within the UW System, including weekend college degree programs and certificate programs.
2. Teleconference courses offered via audio conference networks.
3. National satellite videoconferences.
4. Television courses via ETV Network.
5. Interactive audio/videocourses via WONDER and other networks.
6. Workshops, seminars and clinics.
7. National, regional and state conferences.
8. Computer online credit and noncredit courses.

Reserve Officers' Training Corps—ROTC

Army UW-Stout students may attend Army ROTC courses offered through UW-La Crosse and apply them toward their degree requirements where appropriate. For more information, contact the Admissions Office at 715/232-1411.

Air Force UW-Stout students may concurrently enroll in Air Force ROTC courses in aerospace studies offered through University of St. Thomas, St. Paul. For more information, contact the department of aerospace studies at St. Thomas at 800/328-6819, extension 6320.

More information about these ROTC programs is available online at <http://www.uwstout.edu/admissions/rotc/>.

Opportunities for Study Abroad

The Office of International Programs administers a number of study abroad programs organized by UW-Stout faculty or universities abroad. Students enroll and pay tuition or a program fee at UW-Stout but study in another country. Courses taken abroad can usually be used to meet graduation requirements at UW-Stout. Financial aid applies and Wisconsin residents may qualify for international study grants to offset some of the cost of study abroad. We currently offer the following study abroad opportunities:

United Kingdom

Wisconsin In Scotland Study Center near Edinburgh: General education and various professional courses

Southampton Institute in England: Business administration and construction management

Northbrook College in Worthing, England: Fine art and painting

Harlaxton College in Grantham, England: General education and business courses

American Intercontinental University in London: Apparel design, retailing and business

Lancaster University in England: Psychology and general education

Summer Art Program in London: Painting

Sweden

Skövde University: Business studies and computer design

Netherlands

CHN in Leeuwarden: Hospitality, tourism, retailing and service management

Arnhem University: Business administration

Germany

Fachhochschule in Hildesheim: Art and design

Hessen International Summer University: German language and general education

Spain

University of the Balearic Islands in Palma: Hospitality and tourism exchange

WinTerM Wine and Food Pairing Program in Spain: Hospitality and tourism

Australia

Southern Cross University in Lismore: Hospitality and tourism exchange, education, psychology, business and general education

Mexico

Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM)

Cuernavaca campus: Intensive Spanish language, literature, art culture and business

Monterrey campus: Intensive Spanish language, literature, history, culture and business

Programs of study are available in many other countries through cooperation with other UW campuses. We encourage you to study abroad as part of your educational experience at UW-Stout.

More complete information on these study abroad programs is available online at <http://www.uwstout.edu/intlpro/> or contact the Office of International Programs, 400 Bowman Hall, 715/232-1896.

Graduate Studies

The Graduate School administers graduate admissions, records, policies and other procedures relating to graduate students. Graduate programs include:

- Applied Psychology
- Education
- Food and Nutritional Sciences
- Guidance and Counseling
- Home Economics
- Hospitality and Tourism
- Industrial/Technology Education
- Industrial and Vocational Education (*Ed.S.*)
- Management Technology
- Marriage and Family Therapy
- Mental Health Counseling
- Risk Control
- School Psychology (*M.S. and Ed.S.*)
- Technology Management (*Ph.D. administered by Indiana State*)
- Training and Development
- Vocational and Technical Education
- Vocational Rehabilitation

Dual Undergraduate – Graduate Enrollment

Undergraduate UW-Stout students may apply for admission to a master's degree program, or enroll as a special student and take graduate courses, provided that a bachelor's degree will be awarded within one year and within 30 credits. The applicant must have a minimum grade point average of 2.75 on the undergraduate record on the date of enrollment. Dual level students may earn no more than nine graduate credits while under this status. They may enroll for no more than six graduate credits in a semester and no more than three graduate credits during the summer session. The applicant must submit a "Dual Level Program Enrollment Statement" (*form 104-0116*), in addition to the other application materials, to the Graduate School. A student admitted on dual level who is not awarded the undergraduate degree at the end of the specified term, will be dropped from the Graduate School without loss of graduate credit. Upon subsequent receipt of the degree, the student may reapply for admission. Dual level students are governed by the Graduate Load Limit policy.

Glossary

Academic Probation

A condition of attendance under which students are allowed to remain at the university with the understanding that they meet set academic standards within a set period of time. Failure to meet the standard results in dismissal from the university.

Add and Drop

The process of changing a course schedule by dropping or adding a course during the prescribed time at the beginning of each semester.

Adviser

Faculty or staff member who can provide information and assistance on academic concerns.

Audit

Students register and attend class, but do not take examinations. No credit hours are earned, and the cost of the class is less than regular tuition. "AU" will appear on the grade record.

Bachelor's Degree

The degree received after completing a specific program of undergraduate study and fulfilling all graduation requirements.

Certification

A recognition of professional achievement bestowed by an outside organization.

Class Standing

A measurement of achievement based on the number of credit hours earned. Students with 90 or more credits are seniors. Juniors have 60 or more credits, and sophomores have at least 30 credits.

College

An administrative division of the university housing academic departments, degree programs and other administrative units. At UW-Stout these are: Arts and Sciences; Human Development; and Technology, Engineering and Management.

College Parallel Program

A program of study offered at Wisconsin Technical Colleges and UW System Centers in which the courses meet the requirements and standards of courses offered at the university.

Concentration

A component within a degree program that examines a selected area of the student's chosen professional field in greater detail. A concentration may be part of the university's planned offerings or designed by the student.

Cooperative Education

Cooperative education is a learning approach that integrates college studies with working experiences in industry, business, government and public service. Under the plan, students leave campus for three to six months for the rigors and responsibilities of actual employment situations. The objective is to offer an additional option for learning and to give students a realistic education.

Credit Hour

A measure of academic work. One credit hour usually represents one hour of class time per week plus two hours of out of class study.

Credit Load

The number of credits a student registers for during a semester.

Degree Audit

A report that indicates the students' progress in meeting all of the requirements for a specific degree program.

Degree Program

A planned program of study leading to a bachelor's degree.

Degree-Seeking Student

A student who has been admitted to a degree program and is seeking a bachelor's or master's degree.

Disadvantaged

Deprived of basic social rights and security through poverty, discrimination, or other unfavorable circumstances.

Educationally Disadvantaged

Deprived of a socially adequate education through poverty, discrimination, or other unfavorable circumstances.

Elective

A course taken at the choice of the student. If the electives are in the general education component of a degree program, they must be general education courses.

Emphasis

A designated group of courses within a degree program that affords increased exposure to a specific area in the student's chosen professional field.

Ethnic Studies

Courses that satisfy the ethnic studies requirement, a part of the university's design for diversity initiative, and deal in some aspect with sensitivity to African American, Asian American, Hispanic and Native American cultures. Ethnic Studies courses are expected to discourage racism, thus reducing its effects, and to promote appreciation of ethnic diversity as it is manifested in nonwhite groups.

Full Time Student

An undergraduate student who enrolls for at least 12 credits during the fall or spring semester, or one credit per week of study during the summer session.

General Education Requirement

A component of a degree program that provides a broad-based education with required course work in communication skills, analytic reasoning, health and physical education, humanities and the arts, social and behavioral sciences, natural sciences, and technology.

Good Standing

Maintaining an academic record that meets UW-Stout's requirements, eligible to continue at or return to the university, or to transfer to another institution.

Grade Point

The numerical value given to letter grades, based on an "A" receiving four points, a "B" three points, and so on.

Grade Point Average (GPA)

The numerical value assigned to a student's scholastic average, computed by dividing the total grade points by the total credit hours attempted.

Grant

Financial assistance that does not have to be repaid.

Hold

A barrier placed on a student's ability to register for classes as a result of unpaid monetary obligation or other action by the university.

Incomplete

The grade assigned only if a student is temporarily unable to complete course requirements because of unusual circumstances.

Independent Study

A course of study designed by a student and undertaken outside the classroom, under the supervision of one or more faculty.

Interdisciplinary

Drawing on two or more disciplines in a single course or program.

Internship

Work in a company or agency related to a student's degree program and career plans, usually for academic credit and often also for payment.

Major

A planned program of study leading to a bachelor's degree. Term is often used interchangeably with degree program.

Major studies

A component within a degree program that provides fundamental education for a particular career discipline.

Minor

A sequence of related courses consisting of 15 or more semester hours of credit.

Practicum

Directed work experience related to a program of study.

Prerequisite

A course or experience that must be successfully completed before enrollment in a designated course.

Professional Development Certificates

An alternative academic credential for individuals seeking to obtain new knowledge and skills or to update their knowledge and skills in a specific area.

Professional Electives

Required credits that are not prescribed by the program by designation of a specific course, but that are professional and specific in their content as they pertain to the major.

Program Director

The program director is responsible, with the advisement of the program committee, for the total curriculum of the major program and aids students in meeting all requirement for that program.

Readmission

An appeal procedure for students who have been dismissed or suspended, administered by the Dean of Students.

Re-Entry

An enrollment procedure followed by students who were previously enrolled in good standing at UW-Stout but whose attendance was interrupted for two or more consecutive semesters.

Registration

The process of enrolling in and paying for courses each semester.

Selectives

A group of courses from which a student must choose a prescribed number of credits to meet a program requirement.

Semester

A unit of time, generally 16 weeks long, in the academic calendar.

Specialization

A specialization is a program of study, with carefully constructed learning experiences, defined outcomes, and specified evaluation procedures. Students may enroll in the specialization as a stand-alone program or in addition to their undergraduate or graduate major.

Suspension

To be excluded from the university as a penalty for failure to meet academic or behavioral standards.

Teaching Major/Minor

A state-approved program for teacher certification for teaching at the secondary and/or elementary level.

Transcript

A copy of a student's permanent academic record.

Transfer Credit

Academic credit earned at another accredited institution and accepted toward a UW-Stout degree.

Tuition

The amount of money that must be paid for a course.

Degree Programs



General Education Requirements

Introduction

Each degree program at UW-Stout has a general education component. This component is designed to provide you with knowledge and skills in communication, analytical reasoning, health and physical education, humanities and the arts, social and behavioral sciences, natural sciences and technology.

The university also requires students to take ethnic studies courses to learn about the diverse cultures that make up the United States. With careful planning, some of the general education courses and ethnic studies courses may overlap. That is, you may take a course that meets both general education *and* ethnic studies requirements. While the credits you earn count once toward graduation, they may be used to satisfy requirements in these two areas.

General Education Credit Distribution

A. Communication Skills

8 credits

ENG-101 Freshman English – Composition or	
ENG-111 Freshman English – Honors I	3
ENG-102 Freshman English – Reading and Related Writing or	
ENG-112 Freshman English – Honors II	3
ENG-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts, foreign language and culture, and philosophy. When external accreditation standards warrant a depth requirement with sequenced courses, the nine credits must be taken from two or more areas.

E. Social and Behavioral Sciences

9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology. When external accreditation standards warrant a depth requirement with sequenced courses, the nine credits must be taken from two or more areas.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

0–6 credits

Courses must be from categories A, B, D, E and F.

Total 40–46 credits

Some degree programs have specific general education courses that must be taken in order to satisfy certification, accreditation or prerequisite standards. These exceptions are noted in the general education requirements of each program.

Course Description Codes

In the course description section of this bulletin, general education courses are coded **GE** to identify which category the course is from. The letters which follow **GE** indicate the particular general education category the course applies to, as indicated in the following chart.

GECOMSK WRIT = Communication Skills – Writing

GECOMSK RDG = Communication Skills – Reading

GECOMSK SPK = Communication Skills – Speaking

GECOMSK LANG = Communication Skills – Language

GEANRSN STAT = Analytical Reasoning – Statistics

GEANRSN MATH = Analytical Reasoning – Mathematics

GEANRSN LOG = Analytical Reasoning – Logic

GEHPE ACTV = Health and Physical Education – Activity

GEHPE HLTH = Health and Physical Education – Health

GEHUM ARTMU = Humanities and the Arts – Art History/Music Appreciation

GEHUM CRPRF = Humanities and the Arts – Creative/Performing Arts

GEHUM HIST = Humanities and the Arts – History

GEHUM LIT = Humanities and the Arts – Literature

GEHUM PHIL = Humanities and the Arts – Philosophy

GEHUM FLC = Foreign Language and Culture

GESBSCI ANTH = Social and Behavioral Sciences – Anthropology

GESBSCI ECON = Social and Behavioral Sciences – Economics

GESBSCI GEOG = Social and Behavioral Sciences – Geography

GESBSCI POLS = Social and Behavioral Sciences – Political Science

GESBSCI PSYC = Social and Behavioral Sciences – Psychology

GESBSCI SOC = Social and Behavioral Sciences – Sociology

GENSCI LFSC = Natural Sciences – Life Sciences

GENSCI LFSC LAB = Natural Sciences – Life Sciences Laboratory

GENSCI PHYS = Natural Sciences – Physical Science

GENSCI PHYS LAB = Natural Sciences – Physical Science Laboratory

GETECH = Technology

Ethnic Studies Requirements and Codes

All students at UW-Stout are required to satisfy an ethnic studies requirement for graduation. The courses are categorized as "A," "B," or "C" level and are coded **ESA**, **ESB** or **ESC** in the course description section of this bulletin.

ESA courses directly address diversity in American culture. **ESB** courses focus on a subject other than diversity, such as business, education or history. However, in the context of the subject area, the course will emphasize an understanding and appreciation of diversity. The primary goal of **ESC** courses is to teach a professional skill or theory though the courses include a multicultural component.

Students are required to take either:

1. Two **ESA** courses or
2. One **ESA** course and one **ESB** course or
3. One **ESA** course and two **ESC** courses or
4. One **ESB** course and two **ESC** courses or
5. Three **ESB** courses or
6. Two **ESB** courses and one **ESC** course.

Transfer students who have fulfilled the ethnic studies requirement at another UW System university are exempt from meeting UW-Stout's criteria.

Apparel Design/Manufacturing

Rita Christoffersen, Program Director, 320 Home Economics Building, 715/232-1194

Introduction

The Apparel Design/Manufacturing program prepares students for careers in the apparel and fashion-related industries as team members who understand the *whole* of the apparel pipeline. Graduates of Stout's program hold careers in apparel product design and development, apparel pre-production and production, and apparel quality assurance.

The technical courses are supported by state-of-the-art laboratories. Yearly, the program has credit-producing learning experiences traveling to New York City and Atlanta. A semester of study at the American College in London is available to program students—see Opportunities for Study Abroad, page 19 for details.

The Apparel Design/Manufacturing program is one of only 13 programs in apparel manufacturing in North America that has affiliation status with the American Apparel and Footwear Association.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	52 credits
Concentrations	13 credits
Electives	2 credits
Minor, Specialization or Emphasis Area	15 credits

Students must demonstrate competency in basic apparel construction knowledge and skill by taking or testing out of APRL-166 Apparel Construction (*three credits*).

Students are required to take 52 credits as listed under "major studies" and select one of two 13-credit concentrations:

1. Apparel Design
2. Apparel Production

An additional 15 credits must be in a focused area such as a minor (*art, business administration or retailing are recommended*); a specialization (*international studies or training and human resource development are recommended*); or an emphasis (*selecting the other Apparel Design/Manufacturing concentration, retail or graphic communication areas are recommended*).

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

320-210 Principles of Economics I

Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must be from categories A, B, D, E and F.

Major Studies

52 credits required

Professional Core

BURTL-319 International Economic Trends in Textiles and Clothing	3
INMGT-400 Organizational Leadership	3
BAUCT-206 Introduction to Financial Accounting or	
BAUCT-201 Financial Management Accounting	3
BAUCT-410 Manufacturing Cost Analysis	3
BUINB-485 International Marketing or	
BUINB-367 International Management	3
BURTL-322 Merchandising/Marketing and Apparel Line	2
BUMKG-330 Principles of Marketing	3
BURTL-227 Basic Merchandising	3

Technical Core

APRL-101 Introduction to Apparel Design/Manufacturing	1
APRL-140 Textiles	3
APRL-202 Quality of Sewn Products	3
APRL-274 Apparel Manufacturing	3
APRL-275 Apparel Grading/Marker Making	3
APRL-180 Pattern Development	3
APRL-174 Apparel Production	3
APRL-350 Textile Evaluation	3
APRL-382 Advance Pattern Development	3
APRL-394 Knit Design and Technology	3
APRL-398 Field Experience or	
APRL-449 Cooperative Education	1

Concentrations**13 credits required****Apparel Design****13 credits**

ART-110	Color Theory	1
BURTL-112	Trend Forecasting of Apparel/Home Products	3
APRL-285	Apparel Line Development	3
APRL-581	Functional Clothing Design	3
APRL 485	Apparel Design Studio	3

Apparel Production**13 credits**

BUMIS-333	MIS Decision Support Systems	3
INMGT-120	Quality Concepts	3
INMGT-200	Production/Operations Management	3
INMGT-314	Industrial Enterprise Practicum	3
INMGT-340	Time and Motion Study	1

Electives**2 credits required****Minor, Specialization or Emphasis Area****15 credits required**

Applied Mathematics and Computer Science

Paul Wagner, Program Director, 237J Harvey Hall, 715/232-1391

Introduction

The role of mathematics in our highly scientific-technological society is basic and essential. Mathematical thought and modeling are valued tools in our sophisticated industrial community. The application of mathematics to industry and business to meet society's needs is increasing. This growth and demand continues to create a need for graduates with training in Applied Mathematics and Computer Science.

The program in Applied Mathematics and Computer Science provides 1. a strong foundation in academic mathematics; 2. computational concepts and techniques in computer science, statistics and mathematical models; 3. experiences in areas where mathematics, computers and/or statistics are utilized, and 4. a broad offering of liberal arts courses.

At the completion of the freshman year or after entering the Applied Mathematics and Computer Science program, all students prepare and submit a tentative plan or guide for their undergraduate program. This plan is developed through consultation with an academic adviser and the Program Director. The ultimate plan is developed to meet the student's professional objectives and goals through the appropriate selection of courses within the major studies and the desired related area in which mathematics, computers and/or statistics are used.

Off-campus work in an approved position using computer and/or statistical techniques in the analysis and solution of real world problems is a valuable option within this major. Students receive salaried appointments and course credits. This experience can be included within the program and completed during the junior or senior year. The duration of the experience is for periods of a summer or a summer plus one semester.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	43-45 credits
Major Studies	53 credits
Concentration	23-24 credits
Electives	4-5 credits

In fulfilling the necessary competencies for a degree, a student may complete the requirements for a minor in Business Administration, Economics, or Technical Writing. It is the student's responsibility to obtain approval for the minor from the department offering it.

Program Requirements

General Education

43-45 credits required

A. Communication Skills

	8 credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B: Analytic Reasoning

	7-8 credits
CS-144 Computer Science I	3
MATH-153 Calculus I or	
MATH-156 Calculus and Analytic Geometry I	4-5

C. Health and Physical Education

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

Students enrolled in the **Business Management Concentration** should take:

ECON-210 Principles of Economics I	3
Remaining courses must be from three or more areas including anthropology, geography, political science, psychology and sociology.	

F. Natural Sciences (with Lab)

See selected concentration for course selection.

G. Technology

H. General Education Electives

Courses must come from categories A, B, D, E and F.

Major Studies

53 credits required

Foundational Mathematics**25 credits**

Credit distribution based on the concentration selected.

Techniques – Analysis

MATH-154 Calculus II or	
MATH-157 Calculus and Analytic Geometry II	4-5
MATH-158 Calculus III	3
MATH-255 Differential Equations	3

Select 6-9 credits from the following:

Techniques – Algebra

MATH-275 Linear Algebra	3
MATH-370 Modern Algebra I	3

Theory of Algebra

MATH-371 Modern Algebra II	3
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Select 6-9 credits from the following:

Geometric Applications

MATH-262 Modern Geometry	3
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Theoretical Analysis

MATH-450 Real Analysis I	3
MATH-451 Real Analysis II	3
MATH-460 Complex Variables	3

Select 3 credits from the courses above not already taken.

Computational Mathematics**28 credits****Mathematical Models**

MSCS-490 Mathematical Models I	2
MSCS-491 Mathematical Models II	2

Statistical Methods

See concentration for appropriate course selection.

Statistical Theory

See concentration for appropriate course selection.

Computer Language

See concentration for appropriate course selection.

Computer Methods

See concentration for appropriate course selection.

Concentrations**23-24 credits required**

- Actuarial Science
- Business Management
- Software Development

Electives**4-5 credits**

Select 4-5 additional elective credits from courses listed under the major, concentration or minor to complete the degree requirements of 124 credits.

Actuarial Science ConcentrationSelect the following courses to fulfill the **Computational Mathematics** requirements from Major Studies – page 28:**Statistical Methods**

STAT-320 Statistical Methods	3
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Statistical Theory

Select 6 credits from the following:

STAT-331 Probability and Mathematical Statistics I	3
STAT-332 Probability and Mathematical Statistics II	3

Computer Language

Select 6 credits from the following:

CS-145 Computer Science II	3
CS-241 Assembly Language Programming	3
CS-246 Computer Programming – COBOL	3
CS-248 Web and Internet Programming	3
CS-342 Survey of Programming Languages	3

Computer Methods

Select 9 credits from the following:

CS-341 Data Structures	3
CS-343 Mathematical Foundations of Computer Graphics	3
CS-441 Computer Organization	3
CS-442 Systems Programming	3
CS-443 Database Systems Manipulation and Design	3
MSCS-446 Numerical Analysis I	3
MSCS-447 Numerical Analysis II	3
CS-448 Software Engineering	3

► Actuarial Science Concentration Requirements**23 credits**

ENGL-XXX Any Writing	3
MSCS-390 Topics: Actuarial Exam I Prep	2
MSCS-390 Topics: Actuarial Exam II Prep	2

Select 4 credits from:

XXX-XXX Any Foreign Language	1-4
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Concentration Selectives

Select 12 credits from the following:

BUACT-206 Introduction to Financial Accounting	3
BUACT-207 Introduction – Corporate and Managerial Accounting	3
BUACT-340 Business Finance	3
BULGL-355 Principles of Risk Management	3
ECON-435 Money, Banking, Financial Markets	3
CS-346 Simulation Modeling and Analysis	3

Business Management Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies – page 28:

Statistical Methods

STAT-320 Statistical Methods	3
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Statistical Theory

Select 3 credits from the following:

STAT-331 Probability and Mathematical Statistics I	3
STAT-332 Probability and Mathematical Statistics II	3

Computer Language

Select 9 credits from the following:

CS-145 Computer Science II	3
CS-241 Assembly Language Programming	3
CS-246 Computer Programming – COBOL	3
CS-248 Web and Internet Programming	3
CS-342 Survey of Programming Languages	3

Computer Methods

Select 9 credits from the following:

CS-341 Data Structures	3
CS-343 Mathematical Foundations of Computer Graphics	3
CS-441 Computer Organization	3
CS-442 Systems Programming	3
CS-443 Database Systems Manipulation and Design	3
MSCS-446 Numerical Analysis I	3
MSCS-447 Numerical Analysis II	3
CS-448 Software Engineering	3
CS-346 Simulation Modeling and Analysis	3

► Business Management Concentration Requirements

24 credits

BUACT-206 Introduction to Financial Accounting	3
BUACT-207 Introduction – Corporate and Managerial Accounting	3
BUACT-312 Cost Accounting or	
BUACT-335 Accounting for Management Decisions	3
BUMKG-330 Principles of Marketing	3
ECON-215 Principles of Economics II	3
ENGL-415 Technical Writing	3

Concentration Selectives

Select at least 6 credits from the following blocks:

Finance

BULGL-318 Business Law I	3
BUACT-320 Income Tax Accounting	3
BUACT-340 Business Finance	3
BULGL-355 Principles of Risk Management	3

Economics

ECON-421 Collective Bargaining and Labor Relations	2
ECON-435 Money, Banking, Financial Markets	3
ECON-470 Economic Model-Building and Forecasting	3

General

INMGT-400 Organizational Leadership	3
BULGL-318 Business Law I	3
BUMKG-479 Marketing Research	3

Additional Option

MSCS-X49 Cooperative Internship in Applied Mathematics and Computer Science or	
MSCS-475 Applied Mathematics Internship	6

Software Development Concentration

Select the following courses to fulfill the **Computational Mathematics** requirements from Major Studies – page 28:

Statistical Methods

STAT-320 Statistical Methods	3
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Statistical Theory

Select 3 credits from the following:

STAT-331 Probability and Mathematical Statistics I	3
STAT-332 Probability and Mathematical Statistics II	3

Computer Language

Select 9 credits from the following:

CS-145 Computer Science II	3
CS-241 Assembly Language Programming	3
CS-246 Computer Programming – COBOL	3
CS-248 Web and Internet Programming	3
CS-342 Survey of Programming Languages	3

Computer Methods

Select 6 credits from the following:

CS-341 Data Structures	3
CS-346 Simulation Modeling and Analysis	3
CS-441 Computer Organization	3
CS-442 Systems Programming	3
CS-443 Database Systems Manipulation and Design	3
MSCS-446 Numerical Analysis I	3
MSCS-447 Numerical Analysis II	3
CS-345 Image Processing	3

Select 6 additional credits from the areas above.

► Software Development Concentration Requirements

24 credits

ENGL-415 Technical Writing	3
CS-343 Mathematical Foundations of Computer Graphics	3
CS-448 Software Engineering	3
MSCS-XXX Advanced Software Engineering	3

Select 6 credits from:

XXX-XXX Any Biology, Chemistry and/or Physics	6
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Concentration Selectives

Select 6 credits from one programming application option:

Option 1

CS-246 Computer Programming – COBOL	3
CS-443 Database Systems Manipulation and Design	3
CS-342 Survey of Programming Languages	3

Option 2

MSCS-X49 Cooperative Internship in Applied Mathematics and Computer Science or	
MSCS-475 Applied Mathematics Internship	3

Applied Science

Forrest Schultz, Program Director, 303D Jarvis Hall – Science Wing, 715/232-5009

Introduction

The Applied Science program prepares graduates for careers in biotechnology, pharmaceutical sales, laboratory management or technical support for high technology industries. Graduates of the program have the educational background required by professional schools and graduate programs in the sciences. The program emphasizes flexibility through a broad scientific base along with experience through a chosen career emphasis. In a world of new products and processes, the program also fosters the creativity you will need to contribute to new advances and adapt to rapid scientific and technical innovations.

The curriculum is based on a core of chemistry, physics, biology and mathematics. Students explore all the facets of applied science, including technical writing, data analysis, interpersonal communication and experiment design. Principles in management, marketing, manufacturing and finance are introduced. Students choose a concentration in either scientific laboratory management or scientific sales and support. In addition to working with instructors from a broad range of fields, students gain significant hands on experience through a field or cooperative education experience.

In addition to fulfilling the university's basic admission requirements, Applied Science applicants must also have an ACT math score of at least 22 (SAT math 510) and either rank in the upper 40 percent of your high school class (or GPA of 3.0), or have a composite ACT score of 22. Nontraditional or transfer student admission will be based on current admission standards with guidance from the program director.

General Requirements

Bachelor of Science Degree

Total for graduation	126-127 credits
General Education	44 credits
Major Studies	37 credits
Concentration	45-46 credits

Program Requirements

General Education

44 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	7-10 credits
MATH-153 Calculus or	
MATH-156 Calculus and Analytical Geometry I	4.5
STAT-320 Statistical Methods or	
MATH-154 Calculus II or	
MATH-157 Calculus and Analytical Geometry II	3.5

C. Health and Physical Education	2 credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

D. Humanities and the Arts	9 credits
<i>Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.</i>	

E. Social and Behavioral Sciences	9 credits
<i>Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)	5 credits
CHEM-135 College Chemistry I	5

G. Technology	2 credits
<i>H. General Education Electives</i>	

H. General Education Electives	2 credits
<i>Courses must come from categories A, B, C, D, E and F.</i>	

Major Studies

37 credits required

ENGL-415 Technical Writing	3
BIO-122 Introductory Biology	3
BIO-150 Environmental Science	2
CHEM-136 College Chemistry	5
CHEM-335 Instrumental Methods and Analysis	3
CHEM-353 Environmental Chemistry	3
<i>Choose one group:</i>	
PHYS-281 University Physics I and	
PHYS-282 University Physics II	10
PHYS-241 College Physics I and	
PHYS-242 College Physics II	10
STAT-XXX Any Statistics course if not taken as General Education	3
APSC-311 Issues for Scientific Professionals	3
APSC-XXX Assessment Seminar I	1
APSC-XXX Assessment Seminar II	1

Concentrations

45-46 Credits

Scientific Laboratory Management

45-51 Credits

BIO-134	Physiology and Anatomy for Health Sciences	4
BIO-370	Biotechnology	3
BIO-306	General Microbiology	4
BIO-350	Ecology	3
BUACT-201	Financial-Managerial Accounting or	
BUACT-206	Introduction to Financial Accounting	3
BUMGT-304	Principles of Management	3
CHEM-201	Organic Chemistry	4
CHEM-311	Biochemistry	4
CHEM-331	Quantitative Analysis	3
CHEM-452	Environmental Regulations Management	3
INMGT-430	Employee Involvement: Work Teams	2
PHYS-257	Introduction to Geology and Soil Mechanics	3
APSC-XXX	Scientific Laboratory Management	4
APSC-XXX	Field Experience or	
APSC-X49	Cooperative Education Experience	2-6
APSC-XXX	Electives	0-2

Scientific Sales and Support

46-50 Credits

BIO-134	Physiology and Anatomy for Health Sciences	4
BIO-370	Biotechnology	3
BIO-306	General Microbiology	4
BIO-358	Introductory Pharmacology	2
CHEM-201	Organic Chemistry	4
CHEM-311	Biochemistry	4
CHEM-341	Chemistry of Materials	4
PHYS-250	Light and Color	3
PHYS-3XX	Modern Physics	4
BUACT-201	Financial/Managerial Accounting	3
BUMKG-330	Principles of Marketing	3
BUMKG-334	Salesmanship and Sales Management	3
ELEC-204	Electricity/Electronics Fundamentals	3
APSC-XXX	Field Experience or	
APSC-X49	Cooperative Education Experience	2-6

Art

Program Director, 324 Applied Arts Building, 715/232-1993

Introduction

The Bachelor of Fine Arts in Art offers study in Studio Art or concentrations in Industrial Design, Interior Design, Graphic Design or Multimedia Design. The curriculum provides students with experiences in studio work, art history, professional studies and general studies. An understanding of liberal studies, art history, the present status of art and design, and an inquisitive attitude toward experimentation in problem-solving will move students to a professional level in studio art or in their selected concentration. Experienced art and design faculty ensure current course content and serve as advisers to the students in respective areas. A required midprogram review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. Internship and cooperative education opportunities supplement educational theory and practice in a setting with working professionals. A 2.5 grade point average and a 2.0 or better in art and design department courses is required to complete this Bachelor of Fine Arts degree. Those who choose major studies in Studio Art must present an exhibition of their work during their senior year. All students who concentrate in design must present a portfolio of their work in the final semester.

General Requirements

Bachelor of Fine Arts Degree

Total for graduation	127-129 credits
General Education	42 credits
Major Studies	16 credits
Concentrations or Studio Art	69-71 credits

Program Requirements

General Education

42 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	3
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	3
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including creative arts (excluding courses with ART, ARTH, or DES prefixes) foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 4 credits

G. Technology 2 credits

H. General Education Electives 2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

16 credits required

ART-100 Drawing I	3
ART-101 Fundamentals of Design	3
ART-102 Introduction to Art and Design	1
ART-200 Drawing II	3
ARTH-223 Survey of Art – Ancient through Medieval	3
ARTH-224 Survey of Art – Renaissance through 20th Century	3

Studio Art

71 credits required

The student may complete the following sequence of courses in studio art to complete the art degree without concentration or select a concentration in graphic design, industrial design, or interior design.

Studio and Related Requirements

Note: Two "advanced" studios may be deleted (except Drawing)

MEDIA-304	Elementary Photography	3
ART-145	The Practice of Art	2
ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I	3
ART-401	Life Drawing II or	
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	
ART-413	Ceramics II	
ART-215	Art Metal I	
ART-415	Art Metal II	
ART-217	Printmaking I	3
ART-417	Printmaking II	3
ART-445	Senior Seminar	1
ART-407	Aesthetics (Senior Year)	3
ARTH-XXX	Three additional Art History courses (except ARTH-222)	9

One must be a modern art history.

Studio and Related Selectives (24 credits)

Nine additional advanced credits must be taken in one of these areas: painting, ceramics, sculpture, art metals, drawing or printmaking to establish a studio focus.

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Design" (*a concentration in the BFA in Art program*) and "Graphic Communications Management" (*a separate B.S. degree*) are different, and offer students a choice of two professional areas.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Concentrations

69 credits required

Graphic Design

69 credits

Studio and Related Requirements

DES-210	Letter Form Design	3
DES-220	Computer Imagery	3
DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-310	Graphic Design I	3
DES-360	Graphic Design II	3
DES-480	Senior Project – Graphic Design	4
ART-301	Life Drawing I	3
ART-103	Design	3
ART-217	Printmaking I (<i>serigraphy recommended</i>)	3

Design Studio Selectives (6 Credits)

Choose one of the following:

DES-380	Signage and Exhibition Design	3
DES-410	Product and Packaging Graphics	3
<i>and one of the following:</i>		
DES-382	Information Design	3
DES-384	Advertising Design	3
DES-386	Publication Design	3
DES-388	Typographic Design	3
XXX-XXX	<i>Other courses approved by program director.</i>	

Art Studio Selectives (13 Credits)

Select from the following:

ART-200	Drawing II (repeatable)	3
ART-401	Life Drawing II	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-211	Sculpture I	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-417	Printmaking II	3
XXX-XXX	<i>Other courses approved by program director</i>	1-3

Additional Art History Requirements (6 Credits)

ARTH-319	Evolution of Design	3
ARTH-XXX	<i>Any Art History (except ARTH-222)</i>	3

Technical Requirements (13 Credits)

MEDIA-304	Elementary Photography	3
GCM-141	Graphic Communications/Electronic Publishing	3
GCM-356	Color Electronic Pre-Press	3
PKG-150	Packaging Fundamentals	2
XXX-XXX	<i>Other courses approved by program director.</i>	

Industrial Design **69 credits****Studio and Related Requirements**

DES-200	Design Theory and Methods	3
DES-205	Presentation Techniques	3
DES-310	Graphic Design I	3
DES-330	Industrial Design I	3
DES-345	Product Form Design	3
DES-340	Industrial Design II	3
DES-360	Graphic Design II	3
DES-405	Advanced Presentation Techniques for Designers	3
DES-430	Industrial Design III	4
DES-440	Industrial Design IV	4
ART-103	Design	3
ART-211	Sculpture I	3

Art Studio Selectives

Select 12 credits from the following:

ART-200	Drawing II (repeatable)	3
ART-301	Life Drawing I	3
ART-401	Life Drawing II	3
ART-209	Painting I	3
ART-409	Painting II	3
ART-411	Sculpture II	3
ART-213	Ceramics I	3
ART-413	Ceramics II	3
ART-215	Art Metal I	3
ART-415	Art Metal II	3
ART-217	Printmaking I	3
ART-417	Printmaking II	3
XXX-XXX	Other courses approved by program director	1-3

Additional Art History Requirements

ARTH-319	Evolution of Design	3
ARTH-XXX	Any Art History (except ARTH-222)	3

Technical Requirements (13 credits)

MFGT-102	Manufacturing Materials and Processes I	3
MFGT-103	Manufacturing Materials and Processes II	3
CADD-120	Design Drafting	3
CADD-234	Computer Assisted Design and Drafting	2
XXX-XXX	Other courses approved by program director	2-3

Definitions

UW-Stout offers two concentrations that are similar in name. "Interior Design" (B.F.A. in Art) and "Interior Decorating" (B.S. in Retail Merchandising and Management) are different, and offer students a choice of two professional areas.

Interior designers produce functional and meaningful interior environments (*residential, commercial and public spaces*) by integrating human factors, art and design concepts, space planning, knowledge of architecture, building construction, codes, specifications, materials and furnishings.

The interior design concentration prepares graduates to solve interior design problems, including the initial design and remodeling of structures as part of an architectural design team or as a consultant.

Interior decorators furnish and accessorize existing or planned spaces using knowledge of color, fabrications, interior decoratives and furniture, fixtures and equipment to accommodate each client's individual taste.

The interior decorating concentration in the Retail Merchandising and Management program, page 64, provides graduates with business and decorating skills to enter the marketplace in retailing, interiors studios, or their own business, including consulting.

Interior Design	69 credits	Multimedia Design	69 credits
Studio and Related Requirements		Studio and Related Requirements	
DES-303 Interior Design	3	ART-103 Design	3
DES-314 Interior Specifications I	3	DES-200 Design Theory and Methods	3
DES-200 Design Theory and Methods	3	DES-220 Computer Imagery	3
DES-304 Interior Design II	3	DES-205 Presentation Techniques	3
DES-205 Presentation Techniques	3	DES-310 Graphic Design I	3
DES-414 Interior Specifications II	3	DES-360 Graphic Design II	3
DES-320 Interior Furniture Design	3	DES-325 Advanced Computer Imagery	3
DES-405 Advanced Presentation Techniques for Designers	3	DES-XXX Interface Design	3
DES-415 Environmental Interior Design I	3	DES-XXX Senior Project-Digital Design	4
DES-416 Environmental Interior Design II	4		
DES-103 Design	3		
ART-211 Sculpture I or			
ART-213 Ceramics I	3		
Art Studio Selectives (13 credits)		Design Studio Selectives (6 credits)	
ART-200 Drawing II (repeatable)	3	DES-382 Information Design	3
ART-301 Life Drawing I	3	DES-XXX Digital Rendering and Modeling	3
ART-401 Life Drawing II	3	DES-XXX Interactive Digital Design	3
ART-209 Painting I	3	DES-XXX Computer Animation	3
ART-409 Painting II	3	XXX-XXX Other courses approved by adviser	1-3
ART-211 Sculpture I	3		
ART-411 Sculpture II	3		
ART-213 Ceramics I	3		
ART-413 Ceramics II	3		
ART-215 Art Metal I	3		
ART-415 Art Metal II	3		
ART-217 Printmaking I	3		
ART-417 Printmaking II	3		
XXX-XXX Other courses approved by program director	1-3		
Additional Art History Requirements		Art Studio Selectives (12 credits)	
ARTH-319 Evolution of Design	3	ART-200 Drawing II (repeatable)	3
ARTH-333 Period Furnishings	3	ART-301 Life Drawing I	3
Technical Requirements		ART-401 Life Drawing II	3
AEC-131 Architectural Graphics	3	ART-209 Painting I	3
AEC-170 Light Construction Methods	2	ART-409 Painting II	3
AEC-233 Architectural Design I	3	ART-211 Sculpture I	3
APRL-145 Interior Decorating/Design Textiles	3	ART-411 Sculpture II	3
Technical Selectives (2 credits)		ART-213 Ceramics I	3
AEC-335 Architectural Design II	3	ART-413 Ceramics II	3
CADD-234 Computer Assisted Design and Drafting	2	ART-215 Art Metal I	3
HT-493 Commercial and Residential Lighting	2	ART-415 Art Metal II	3
XXX-XXX Other courses approved by program director	1-3	ART-217 Printmaking I	3
		ART-417 Printmaking II	3
		XXX-XXX Other courses approved by adviser	3
Additional Art History Requirements		Technical Requirements	
ARTH-319 Evolution of Design	2	MEDIA-304 Elementary Photography	2-3
ARTH-XXX Any Art History (except ARTH-222)	3	CS-144 Computer Science I	3
Technical Requirements		CS-145 Computer Science II	3
		CS-248 Web and Internet Programming	3
		MEDIA-430 Audio/Film Production Fundamentals	3
Technical Selectives (3 credits)			
		MEDIA-360 Introduction to Media in Education and Training	2
		MEDIA-405 Advanced Photography	2
		CS-341 Data Structures	3
		XXX-XXX Other courses approved by adviser	1-3

Art Education

Program Director, 324 Applied Arts Building, 715/232-1993

Introduction

The Art Education program provides students with experience in liberal studies, art history, studio art and professional education. It is a Bachelor of Science degree program that prepares students for certification by the Department of Public Instruction for teaching art in elementary and secondary schools. An understanding of general studies, art history, the present status of art and the educational environment, with an inquisitive approach toward problem solving, will move students to a professional level. Experienced art and design faculty ensure current course content and serve as advisers for students. Preteaching observation, presented at the sophomore level, provides students an early involvement in elementary and secondary schools. A required mid-program review offers students an overview of their progress. Extensive library resources and the art and design department visual resource center are significant assets. Foreign study opportunities allow students variety in cultural experiences. An optional 11 credit additional concentration in Adaptive Education is available.

General Requirements

Bachelor of Science Degree

Total for graduation	135 credits
General Education	42 credits
Major Studies	93 credits

A minimum overall grade point average of 2.75 is required for entry into student teaching and for graduation. Students must achieve a minimum grade of "C" (2.0) or better in each class and a 2.75 grade point average in all art, art education and education courses.

Art Education majors must present an exhibition of their work during the senior year, but not during the student teaching semester.

* A grade point of 2.0 or better is required.

Program Requirements

General Education

42 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition* or	
ENGL-111 Freshman English – Honors I*	3
ENGL-102 Freshman English – Reading and Related Writing* or	
ENGL-112 Freshman English – Honors II*	3
SPCOM-100 Fundamentals of Speech*	2

B. Analytic Reasoning	6 credits
MATH-XXX Any Mathematics from the approved General Education list... 4 Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education	2 credits
Courses must be from areas of health, physical education or nutrition.	

D. Humanities and the Arts	9 credits
MEDIA-304 Elementary Photography	3
LIT-XXX Any Literature	3
A remaining course must be from one of the following areas: foreign language and culture, history, music appreciation, performing arts or philosophy. Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.	
E. Social and Behavioral Sciences	9 credits
POLS-210 American Government	3
PSYC-110 General Psychology	3
A remaining course must be from one of the following areas: anthropology, economics, geography or sociology. See previous note under category D.	
F. Natural Sciences (with Lab)	4 credits
Choose a biology course, and either a chemistry or physics course.	
G. Technology	2 credits
H. General Education Electives	2 credits
Courses must come from categories A, B, D, E and F.	
Major Studies	93 credits required
Art Requirements	33 credits
ART-100 Drawing I	3
ART-101 Fundamentals of Design	3
ART-145 The Practice of Art	2
ART-200 Drawing II	1-3
ART-301 Life Drawing I	3
ART-209 Painting I	3
ART-211 Sculpture I	3
ART-213 Ceramics I	3
ART-215 Art Metal I	3
ART-217 Printmaking I	3
ART-445 Senior Seminar	1
ART-407 Aesthetics	3
Selective Art and Design Studios	9 credits
Select studio courses from art metals, ceramics, drawing, life drawing, painting, printmaking, sculpture—3 of the 9 credits may be graphic, industrial or interior design courses.	
Art History Requirements	12 credits
ARTH-223 Survey of Art – Ancient through Medieval	3
ARTH-224 Survey of Art – Renaissance through 20th Century	3
Select 2 additional art history courses; one must be a 20th century art course.	
Education Requirements	39 credits
ARTED-208 Preteaching Observation (Sophomore Year)	2
ARTED-322 Art Education – Elementary	3
ARTED-323 Art Education – Secondary	3
ARTED-408 Student Teaching in the Elementary School – Art	8
ARTED-409 Student Teaching in the Secondary School – Art	8
EDUC-303 Educational Psychology	3
EDUC-312 Introduction to Curriculum, Methods and Assessment	2
EDUC-326 Foundations of Education	2
EDUC-336 Multiculturalism: Issues and Perspectives	2
EDUC-376 Field Experience – Cross Cultural Experience	1
EDUC-382 Secondary Reading and Language Development	2
SPED-430 Inclusion of Students With Exceptional Needs	3

Construction

Hans Timper, Program Director, 281G Jarvis Hall – Technology Wing, 715/232-2416

Introduction

The Construction program is designed to prepare individuals for a variety of responsible positions in the field of construction.

Broad objectives of the program include developing fundamental knowledge of science, engineering, business, management, architecture and construction principles; applying scientific, technological and management principles to the solution of construction problems; and integrating diverse scientific and technical areas as they impact on the construction field.

General Requirements

Bachelor of Science Degree

Total for graduation	129 credits
General Education	46 credits
Major Studies	74 credits
Writing and Science Preparation	6 credits
Electives	3 credits

Program Requirements

General Education

46 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6 credits
MATH-153 Calculus I	4
STAT-130 Elementary Statistics	2

C. Health and Physical Education	2 credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	

D. Humanities and the Arts	9 credits
<i>Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.</i>	

E. Social and Behavioral Sciences	9 credits
ECON-201 General Economics or	
ECON-210 Principles of Economics I	3
POLS-210 American Government	3
SOC-110 Introductory Sociology or	
PSYC-110 General Psychology	3

F. Natural Sciences (with Lab)	10 credits
PHYS-241 College Physics I and	
PHYS-242 College Physics II	10

G. Technology	2 credits
<i>Electives</i>	

Major Studies

74 credits required

Business and Management

	18 credits
INMGT-300 Engineering Economy	3
INMGT-400 Organizational Leadership	3
BUACT-201 Financial–Managerial Accounting or	
BUACT-206 Introduction to Financial Accounting	3
BUMGT-304 Principles of Management	3
BUMKG-330 Principles of Marketing	3
PSYC-382 Human Resource Management	3

Architecture, Engineering and Construction

	56 credits
RC-388 Construction Safety	2
BULGL-473 Legal Aspects of Construction	3
AEC-131 Architectural Graphics	3
AEC-170 Light Construction Methods	2
AEC-175 Construction Materials	1
AEC-190 Orientation to Construction Industry	1
AEC-237 Architectural Technology	3
AEC-270 Heavy Construction Methods and Equipment	3
AEC-273 Concrete and Masonry Technology	3
AEC-357 Site Engineering	3
AEC-438 Contract Requirements and Specifications	3
AEC-452 Environmental Systems – HVAC	3
AEC-453 Environmental Systems – Plumbing and Electrical	3
AEC-458 Structural Systems – Wood and Steel	3
AEC-459 Structural Systems – Concrete and Masonry	3
AEC-370 Construction Estimating I	3
AEC-470 Construction Estimating II	2
AEC-472 Management of Construction	3
AEC-471 Project Scheduling and Cost Control	3
AEC-449 Cooperative Education Experience	2
PHYS-321 Statics and Strength of Materials	4

Writing and Science Preparation

6 credits required

ENGL-320 Business Writing or	
ENGL-415 Technical Writing	3
PHYS-257 Introduction to Geology and Soil Mechanics	3

Electives

3 credits required

Dietetics

Carol Seaborn, Program Director, 225 Home Economics Building, 715/232-2216

Introduction

The Dietetics program prepares graduates for careers in clinical and administrative dietetics, community and public health nutrition, corporate wellness, and nutrition education as well as for opportunities in the food services, business and industry.

The Dietetics program is currently granted approval status by the Commission on Accreditation for Dietetics Education, of the American Dietetic Association, 216 W. Jackson Blvd., Chicago, IL, 60606-6995, phone 212/299-4876. Completion of the Didactic Program in dietetics and the baccalaureate degree meet minimum academic requirements for ADA membership, registration eligibility and application to a dietetic internship or preprofessional practice program.

The dietetic student receives an education with an emphasis on the following sciences: physical and biological; behavioral and social; communication and professional. With this background, the student can move toward the community and business management of nutritional health, food service and dietetic practices.

General Requirements

Bachelor of Science Degree

Total for graduation	124-125 credits
General Education	45-46 credits
Major Studies	71 credits
Professional Emphasis Area	8 credits

Students must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Supervised work experience must be obtained through participation in the Field Experience program.

Students must attain a grade point of 2.0 or better in each of the General Education and Major Studies courses. (*All transferred credits will meet this program requirement.*) A 2.75 or greater grade point average is required for graduation. A minimum grade of B (3.0) is required in FN-212 Nutrition. Courses marked with an asterisk (*) are repeatable only once, and require a cumulative grade point average of 2.50, except for FN-212, which requires a 3.0, or "B."

Program Requirements

General Education

45-46 credits required

A. Communication Skills	8 credits
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ENGL-101 Freshman English – Composition or ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6-7 credits
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STAT-130 Elementary Statistics or STAT-320 Statistical Methods	2-3
MATH-120 Introductory College Mathematics I (or more advanced)	4

C. Health and Physical Education	2 credits
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Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts	9 credits
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Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences	9 credits
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POLS-210 Government	3
PSYC-110 General Psychology	3

Choose one of the following:

SOC-110 Introductory Sociology	3
SOC-225 Social Problems	3
ANTH-220 Cultural Anthropology	3
ANTH-300 Native Americans	3

F. Natural Sciences (with Lab)	9 credits
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BIO-134 Physiology and Anatomy for Health Sciences*	4
CHEM-115 General Chemistry* or	
CHEM-125 Principles of Chemistry for Health Sciences* or	
CHEM-135 College Chemistry I*	5

G. Technology	2 credits
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Major Studies

71 credits required

Physical and Biological Sciences

15 Credits

BIO-306	General Microbiology	4
BIO-362	Advanced Physiology	3
CHEM-201	Organic Chemistry	4
CHEM-311	Biochemistry	4

Nutrition and Medical Nutrition Therapy

16 credits

FN-212	Nutrition*	3
FN-207	Medical Terminology	1
FN-320	Advanced Nutrition	3
FN-418	Diet Therapy	4
FN-312	Nutrition Assessment	2
FN-413	Maternal and Child Nutrition or	
FN-415	Nutritional Issues in Gerontology	3

Nutrition Education/Counseling,

Communication and Community Nutrition

12 credits

FN-406	Nutrition Education	3
ENGL-320	Business Writing or	
ENGL-415	Technical Writing or	
ENGL-346	Research Reporting	3
FN-360	Nutrition Counseling	3
FN-380	Community Nutrition	3

Food and Food Science

10 credits

FN-240	Food Science	4
FN-438	Experimental Foods	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

Food Service Administration/Management

15 credits

BUMGT-304	Principles of Management	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-150	Institutional Food Purchasing	2
HT-362	Food, Beverage, and Labor Cost Controls	3

Career Awareness

3 credits

FN-101	Dietetics as a Profession	1
FN-397	Field Experience	2

Professional Emphasis Area

8 credits required

Select 8 credits in an appropriate area of emphasis or combine credits in emphasis area, or use credits toward a minor, or choose other elective credits, all with the approval of a program director. Emphasis areas include Aging and Nutrition, Culinary Arts/Communications, Food and Nutrition, Fitness and Nutrition, Food Science and Technology, Health and Nutrition Behavior, Management of Nutrition Services, Nutrition and Rehabilitation, Nutrition Generalist, Nutrition Marketing and Public Relations, and Training/Education in Nutrition Practice.

Early Childhood

Robin Muza, Program Director, 122 Home Economics Building, 715/232-1115

Introduction

The curriculum in the Early Childhood program is designed to prepare resourceful, creative and competent graduates to work in settings with young children and their families. The certification concentration, which emphasizes theory and practice, meets the requirements for birth through grade 3 teaching certification for the State of Wisconsin. The general concentration, which strengthens knowledge in child development and family studies, prepares students whose career goals are to assume positions in the field of early childhood that do not require certification. Academic course work is enriched by involvement with children and families beginning in the freshman year, with observation/participation experiences in UW-Stout's Child and Family Study Center. Graduates are employed as preschool, kindergarten and primary teachers, and as administrators of child care centers, curriculum specialists, and resource and referral specialists within corporations and the public sector.

General Requirements

Bachelor of Science Degree

Total for graduation	124-129 credits
General Education	43 credits
Major Studies	36 credits
Concentration	45-50 credits

A minimum cumulative grade point average of 2.75 is required for graduation for the certification concentration and 2.5 for the general concentration.

An overall grade point average of at least 2.75 is required for acceptance into the certification concentration.

Students must student teach at three levels: infant/toddler/preschool, kindergarten and primary.

Students must demonstrate proficiency in American Red Cross First Aid procedures, either by verifying current certification with their adviser, or by satisfactory completion of HLTH-340 ARC Standard First Aid and Personal Safety.

Students must demonstrate proficiency in music fundamentals by taking MUSIC-101 Class Piano or by testing out of the course.

All students are required to take the Preprofessional Skills Test (PPST) in their first semester in the program. Students must pass all three sections of the PPST before they will be admitted to the certification concentration.

* Required courses with a grade point of 2.0 (C) or better. Courses in which a student earns less than the required 2.0 must be retaken and at least a 2.0 earned prior to student teaching.

** Required major courses with grade point of 2.67 (B-) or better. Courses in which a student earns less than the required 2.67 must be retaken and at least a 2.67 earned prior to student teaching.

Program Requirements

General Education

43 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition* or	
ENGL-111 Freshman English – Honors I*	3
ENGL-102 Freshman English – Reading and Related Writing* or	
ENGL-112 Freshman English – Honors II*	3
SPCOM-100 Fundamentals of Speech*	2
B. Analytic Reasoning	7 credits
MATH-118 Concepts of Mathematics (or more advanced)*	4
LOG-301 Introduction to Logical Thinking	3
C. Health and Physical Education	2 credits
229-202 Nutrition for Healthy Living	2-3
D. Humanities and the Arts†	9 credits
LIT-300 Children's Literature*	3
MUSIC-101 Class Piano I*	1
Remaining courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.	
† Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.	
E. Social and Behavioral Sciences †	9 credits
POLS-210 American Government	3
PSYC-110 General Psychology*	3
Remaining course must be from one of the following areas: anthropology, economics, geography or sociology.	
† See previous note under Category D.	
F. Natural Sciences (with Lab)	5 credits
BIO-XXX Any approved Biology course with an ecological focus *	
CHEM-XXX Any approved Chemistry* or	
PHYS-XXX Any approved Physics *	
G. Technology	2 credits
H. General Education Electives	1 credit

Course must come from categories A, B, D, E or F.

Colonial Engineers

www.colonialengineers.com | 800-541-1234 | info@colonialengineers.com

Major Studies

36 credits required

Child Development and Family Studies Core

18 credits

HDFL-115	Individual and Family Relations*	3
HDFL-124	Human Development: Early Childhood**	3
HDFL-264	Child Guidance*	3
HDFL-280	Child Development II*	3
HDFL-310	Family Stress, Coping and Adaptation*	1
HDFL-313	Parent Education/Involvement*	2
HDFL-401	Human Development: Advanced Child Development and Guidance*	1
HDFL-427	Child Abuse and Neglect*	2

Early Childhood Professional Core

18 credits

HDFL-100	Introduction to Early Childhood Programs*	1
HDFL-303	Developmentally Appropriate Practice: Infants and Toddlers*	3
HDFL-307	Developmentally Appropriate Practice: Preschool*	4
HDFL-309	Developmentally Appropriate Practice: Kindergarten-Primary*	2
HDFL-421	Administration of Early Childhood Programs*	2
FN-236	Nutrition for Young Children*	1-2
ENGL-438	Practicum for Early Childhood*	1-3
MUSIC-206	Music for the Young Child*	2
PE-265	Physical Activities for Young Children*	2

Concentrations

45-50 credits required

The Early Childhood program provides a broad background in the profession. Students who wish to specialize may choose from the following concentrations:

Certification Concentration

50 credits

Curriculum Block (16 credits)

HDFL-410	Early Childhood Curriculum: Science*	3
HDFL-411	Early Childhood Curriculum: Mathematics*	3
HDFL-412	Early Childhood Curriculum: Social Studies*	3
HDFL-413	Early Childhood Curriculum: Reading and Language Arts*	5
HDFL-414	Early Childhood Clinical Experience: Integrated Curriculum*	2

Student Teaching (18 credits)

HDFL-480	Student Teaching: Infant, Toddler, Preschool*	6
HDFL-493	Student Teaching: Kindergarten*	6
HDFL-494	Student Teaching: Primary*	6

Education Courses (16 credits)

EDUC-303	Educational Psychology*	3
EDUC-312	Introduction to Curriculum, Methods and Assessment*	2
EDUC-326	Foundations of Education*	2
EDUC-336	Multiculturalism: Issues and Perspectives*	2
EDUC-376	Field Experience – Cross Cultural Experience *	1
EDUC-380	Reading and Language Arts in Elementary Education*	3
EDUC-381	Preclinical: Elementary Education – Language Arts and Reading*	1
EDUC-430	Inclusion of Students with Exceptional Needs*	3

General Concentration

45 credits

HDFL-225	Skill Training for Individual/Family Interventions*	3
HDFL-255	Family Living (EMR)*	3
HDFL-257	Lifespan Sexuality*	3
HDFL-270	Seminar on Self-Growth	2
HDFL-320	Divorced, Single Parent and Remarried Family*	2
HDFL-335	Seminar: The Culturally Distinct Child and Family*	2
HDFL-336	Experience: The Culturally Distinct Child and Family	1
HDFL-360	The Workplace and the Family*	2
HDFL-595	Special Topics in Human Development*	1-2
HDFL-424	Advanced Child Study*	3
FN-104	Food Service for Children*	3
FCSE-201	Presentation Strategies for Family and Consumer Sciences*	2
PSYC-451	Children's Learning*	3
XXX-XXX	Field Experience	2

Choose 10-11 additional credits from the approved list of courses to complete the professional component.

Engineering Technology

Scott Springer, Program Director, 332 Fryklund Hall, 715/232-2162

Introduction

UW-Stout's Engineering Technology degree provides a broad background in industrial practices combined with an in-depth study in an engineering-related concentration. The program is designed to prepare graduates for industrial positions related to the engineering concentration area, with an appropriately broad background for later advancement into management positions. Typical entry-level positions include Design Engineer, Project Engineer, Plant Engineer, Process Engineer, Designer, Industrial Engineer, Production Scheduler and Applications Engineer. Students in the program develop knowledge and competencies in the concentration engineering area, materials and manufacturing methods, management/overview of the industrial organization, effective oral and written communication, and the application of physical science and mathematics principles to understand and solve technological and economic problems found in industry.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	51 credits
Major Studies	43 credits
Concentrations	30 credits

Program Requirements

General Education

51 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

STAT-130 Elementary Statistics	2
MATH-153 Calculus I	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-201 General Economics or ECON-210 Principles of Economics I	3
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Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)	15 Credits
CHEM-135 College Chemistry I	5
PHYS-241 College Physics I	5
PHYS-242 College Physics II	5

G. Technology	2 Credits
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Major Studies

43 credits required

Professional Studies	20 credits
RD-100 Introduction to Engineering Technology	1
RC-381 Occupational Safety/Loss Control	3
INMGT-200 Production/Operations Management	3
INMGT-400 Organizational Leadership	3
INMGT-430 Employee Involvement: Work Teams	2
BUACT-200 Financial-Managerial Accounting – Engineering Technology	2
BUMKG-330 Principles of Marketing	3
ENGL-415 Technical Writing or ENGL-346 Research Reporting	3

Basic Technology	23 credits
CADD-112 Principles of Engineering Drawing I	3
ELEC-204 Electricity/Electronics Fundamentals	3
MFGT-110 Materials and Manufacturing Processes	3
MFGT-202 Welding and Casting Processes	3
MFGT-203 Machining and Metal Forming	3
MFGT-204 Polymer Processes	3
RD-205 Design for Industry	3
POWER-260 Introduction to Fluid Power	2

Concentrations

30 credits required

Students elect one of the following concentrations.

Automation Systems	30 credits
Core Requirements (25 credits)	
ELEC-352 Microcomputer/Microprocessor Concepts	3
ELEC-340 Motors and Generators	2
ELEC-281 Circuit Devices and Logic	3
ELEC-341 Electrical and Mechanical Interface Devices	2
ELEC-445 Automation and Control Applications	3
POWER-303 Mechanical Power Transmission	3
MFGT-303 Computer Aided Manufacturing	3
MFGT-305 Robotics	2
POWER-361 Industrial Hydraulics	2
POWER-362 Industrial Pneumatics	2

Core Selectives (5 credits)

Select 5 credits from the following:

MFGT-310 Manufacturing Systems	3
MFGT-337 Numerical Control in Manufacturing	1-3
PKG-150 Packaging Fundamentals	2
PKG-335 Packaging Machinery	3
BAUCT-410 Manufacturing Cost Analysis	3
TRHRD-360 Training Systems in Business and Industry	3
PHYS-325 Strength of Materials	3
SPCOM-XXX Advanced Speech	1-3
XXX-X49 Cooperative Education Experience	1-3

Facilities	30 credits	Plastics	30 credits
Core Requirements (24 credits)		Core Requirements (24 credits)	
INMGT-300 Engineering Economics	2	MFGT-340 Plastics Processing	3
INMGT-350 Facilities Planning	3	MFGT-350 Advanced Plastics Processing	3
INMGT-450 Maintenance Management	2	CADD-113 Principles fo Engineering Drawing II	3
INMGT-365 Project Management	2	MFGT-360 Plastics Tooling I	3
AEC-237 Architectural Technology	3	MFGT-470 Plastics Tooling II	3
AEC-438 Contract Requirements and Specifications	3	CHEM-325 Chemistry of Polymers	4
AEC-452 Environmental Systems – HVAC	3	POWER-361 Industrial Hydraulics	2
AEC-453 Environmental Systems – Plumbing and Electrical	3	MFGT-480 Capstone	3
CHEM-353 Environmental Chemistry	3		
Core Selectives (6 credits)		Core Selectives (6 credits)	
Select 6 credits from the following:		Select 6 credits from the following:	
RC-383 Voluntary OSHA Compliance	2-3	INMGT-120 Quality Concepts	3
RC-386 Fire Protection	3	PKG-150 Packaging Fundamentals	2
INMGT-120 Quality Concepts	3	CADD-436 Computer Assisted Design Problems	3
INGMT-314 Industrial Enterprise Practicum	3	PKG-200 Packaging materials	3
BUMKG-337 Purchasing	3	MFGT-303 Computer Aided Manufacturing	3
AEC-357 Site Engineering	2	MECH-392 Mechanics of Machinery I	3
AEC-370 Construction Estimating I	3	POWER-303 Computer Aided Manufacturing	3
CADD-234 Computer Assisted Design and Drafting	2	PHYS-321 Statics and Strength of Materials	4
POWER-361 Industrial Hydraulics	2	SPCOM-XXX Advanced Speech	1-3
POWER-362 Industrial Hydraulics	2	XXX-X49 Cooperative Education Experience	1-3
CHEM-452 Environmental Regulations Management	3		
PHYS-325 Strength of Materials	3		
SPCOM-XXX Advanced Speech	1-3		
XXX-X49 Cooperative Education Experience	1-3		
Mechanical Design	30 credits	Production Operations	30 credits
Core Requirements (24 credits)		Core Requirements (24 credits)	
PHYS-321 Statics and Strength of Materials	4	INMGT-120 Quality Concepts	3
CADD-113 Principles of Engineering Drawing II	3	MFGE-XXX Engineering Economics and Cost Analysis	3
CADD-436 Computer Assisted Design Problems	2	INMGT-305 Production and Inventory Control	3
MECH-332 Mechanical Design	4	INMGT-314 Industrial Enterprise Practicum	3
MECH-337 Mechanical Design Drafting	2	INMGT-320 Quality Assurance	3
MECH-392 Mechanics of Machinery II	3	INMGT-350 Plant Layout	3
MECH-393 Mechanics of Machinery II	3	BUMKG-430 Industrial Distribution	3
Choose one option:		BUMKG-337 Purchasing	3
Option 1		Core Selectives (6 credits)	
RD-320 Prototype Development	3	Select 6 credits from the following:	
Option 2		PKG-150 Packaging Fundamentals	2
RD-420 Research and Development	2	PKG-269 Distribution Packaging	3
RD-421 Research and Development Lab	1	MFGT-308 Industrial Metrology	3
Core Selectives (6 credits)		INMGT-450 Maintenance Management	3
Select 6 credits from the following:		INMGT-325 Quality Management	3
PKG-150 Packaging Fundamentals	2	INMGT-340 Time and Motion Study	1-3
PKG-335 Packaging Machinery	3	BULGL-318 Business Law	3
MFGE-441 Design of Jigs and Fixtures	3	RC-389 Fleet Risk Control Management	2
MFGT-303 Computer Aided Manufacturing	3	ECON-421 Collective Bargaining and Labor Relations	2
MFGT-310 Industrial Metrology	3	MFGT-303 Computer Aided Manufacturing	3
CADD-212 Descriptive Geometry	3	BUINB-260 Introduction to International Business	3
CADD-466 3-D Computer Modeling and Rendering	3	SPCOM-XXX Advanced Speech	1-3
ELEC-348 Motors and Generators	2	XXX-XXX Any Co-op or Field Experience	1-3
POWER-303 Mechanical Power Transmission	3		
POWER-361 Hydraulics	2		
POWER-362 Pneumatics	2		
SPCOM-XXX Advanced Speech	1-3		
XXX-X49 Cooperative Education Experience	1-3		

Family/Extension Education

2.5 overall GPA required

	61 Credits
HDFL-124 Human Development: Early Childhood	3
HDFL-215 Dynamics of Family Development	3
HDFL-255 Lifespan Human Development	3
FCSE-301 Family and Consumer Sciences Education Curriculum	3
HDFL-235 Child Development Laboratory	1
HDFL-335 Seminar: Culturally Distinct Child and Family	2
HDFL-336 Experience: Culturally Distinct Child and Family	1
FCSE-360 Family and Consumer Sciences Education/Family Life Evaluation	2
FCSE-300 Internship – Family and Consumer Sciences Education	4-8
FCSE-451 Family Life Education Programs	2
EDUC-303 Educational Psychology	3
<i>Select 20 credits from the following:</i>	
HDFL-264 Child Guidance	3
HDFL-280 Child Development II	3
HDFL-310 Family Stress, Coping and Adaptation	1
HDFL-313 Parent Education/Involvement	2
HDFL-320 Divorced, Single Parent and Remarried Family	2
HDFL-330 Adulthood and the Family	3
HDFL-340 Human Development: Aging Person	3
HDFL-365 Family Resource Management	2
HDFL-351 Death and the Family	1
HDFL-360 The Workplace and the Family	2
HDFL-345 Health Care Dilemmas and Decisions for Families	2
HDFL-257 Lifespan Sexuality	3
HDFL-420 Family Research Methodology	3
APRL-140 Textiles	3
APRL-166 Apparel Construction	3
BURTL-417 Social/Psychological Aspects of Clothing	3
FN-380 Community Nutrition	3
FN-346 Food Preservation	1
FN-342 Advanced Foods	3
FN-406 Nutrition Education	3
FCSE-280 Family Housing	3
HT-382 Family Finance	2
XXX-XXX Subject Matter Electives	5
<i>Select 6-8 credits from the following:</i>	
INMGT-400 Organizational Leadership	3
VTAE-474 Adult Education	2
FCSE-397 Field Experience	2
ENGL-246 Informational Writing	3
PSYC-379 Public Relations	2

Electives

4-8 credits required

Consumer Affairs

2.0 overall GPA required

	61 Credits
INMGT-400 Organizational Leadership or PSYC-382 Human Resource Management	3
BUACT-206 Introduction to Financial Accounting	3
BUMKG-330 Principles of Marketing	3
HDFL-255 Lifespan Human Development	3
HT-365 Consumer Aspects of Life Insurance	1
HT-366 Consumer Aspects of Health Insurance	1
HT-480 Consumer Credit	1
HT-482 Consumer Protection	1
HT-382 Family Finance	2
HT-XXX Consumer Affairs Field Experience or HT/HDFL-X49 Cooperative Education/Internship	1-2
ECON-215 Principles of Economics II	3
ECON-325 Economic and Business Statistics	3
ENGL-320 Business Writing or ENGL-325 Copy Editing and Preparation or ENGL-415 Technical Writing	2-3
ENGL-246 Informational Writing	3
PHIL-275 Personal and Professional Ethics	3
SPCOM-308 Speech Skills for Business and Industry	2
PSYC-377 Consumer Psychology	3
PSYC-379 Public Relations	2
<i>Select 8 credits from the following Business/Finance courses:</i>	
HT-488 Financial Planning for Retirement	2
ECON-335 Personal Securities Investments	2
ECON-435 Money, Banking, Financial Markets	3
ECON-445 Public Finance	3
<i>Select 6 credits from the following Marketing courses:</i>	
BUMKG-334 Salesmanship and Sales Management	3
BUMKG-370 Principles of Advertising	3
BUMKG-479 Marketing Research	3
<i>Additional Writing/Editing or Marketing Electives</i>	
<i>5-6 credits required</i>	

Food Systems and Technology

Carolyn Barnhart, Program Director, 368 Home Economic Building, 715/232-2545

Introduction

The Food Systems and Technology program prepares graduates for careers in the nation's largest business—the food industry. The Food Systems and Management concentration prepares graduates to administer large quantity food production and service facilities everywhere, from cruise ships to hospitals, schools and prisons. Graduates may also manage catering operations or restaurants and delis. Entry-level positions for graduates of the Food Science concentration include assistant food scientist, quality assurance manager, food analyst, food/ingredient development team member, technical representative and government relations officer. The Food Merchandising and Distribution concentration prepares graduates for positions such as supermarket, convenience store or food discount club management; manufacturer sales; food broker; specialty food merchandising; and marketing specialist. The Food Communication concentration prepares graduates for a variety of careers including food styling, magazine or newspaper writing and editing, food and nutrition television reporter, food promotion specialist or food industry home economist.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	34 credits
Concentration	42-48 credits
Electives	2-6 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments.

Work experience must be obtained through participation in the Field Experience program (*after junior year*).

All transfer credits must have a grade point of 2.0 or better. A 2.25 or better grade point average is required for graduation. All major studies courses must have a 1.67 or better grade point average.

Program Requirements

General Education

42 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

MATH-120 Introductory College Mathematics I (or more advanced)	4
<i>Remaining courses must be from the areas including math, logic, statistics and computer science. (Qualified Food Science concentration students should take MATH-153 Calculus I.)</i>	

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210 Principles of Economics I

Remaining courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

BIO-122 Introductory Biology or	
BIO-234 Physiology and Anatomy or	
BIO-142 Botany or	
BIO-152 Zoology	3-4
BIO-306 General Microbiology	4

G. Technology

2 credits

H. General Education Electives

2 credits

Required courses from the major studies component will fulfill these requirements.

Major Studies

34 credits

INMGT-400 Organizational Leadership	3
BUMKT-330 Principles of Marketing	3
PKG-150 Packaging Fundamentals	2
FN-111 Food Systems and Technology Futures	1
FN-124 Foods or	
FN-240 Food Science	4
FN-102 Nutrition for Healthy Living or	
FN-106 Nutrition in the Hospitality Industry or	
FN-212 Nutrition	2-3
FN-442 Basic Sensory Analysis	3
FN-449 Cooperative Education/Internship or	
FN-497 Field Experience	2
FN-342 Advanced Foods	3
FN-350 Food Processing	3

Select 2-3 credits from the following:

ENGL-246 Informational Writing or	
ENGL-415 Technical Writing or	
SPCOM-308 Speech Skills for Business and Industry	2-3

Select 5 credits from the following:

CHEM-115 General Chemistry or	
CHEM-125 Principles of Chemistry for Health Sciences or	
CHEM-135 College Chemistry I	5

Concentrations**42-48 credits required****Food Systems Management****42 credits**

BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction – Corporate and Managerial Accounting	3
BUMGT-304	Principles of Management	3
FN-260	Menu Planning and Design	2
FN-208	Management of Food Production	3
FN-310	Lifespan Nutrition	3
FN-420	Food Styling	3
HT-324	Quantity Food Production	4
HT-362	Food, Beverage and Labor Cost Controls	3
HT-353	Computer Systems for Food Service	2
HT-450	Food Service Administration	3
HT-323	Food Service Equipment	2
XXX-XXX	<i>Electives *</i>	2-6

Select 6 credits from the following:

FN-410	Food Policy Regulation and Law	3
FN-414	Catering or	
HT-424	Catering	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3

*BIO-206 *Food Service and Environmental Sanitation* (1 credit) may give students sanitation certification from the Educational Foundation of the National Restaurant Association.

Food Science**48 Credits**

INMGT-200	Production/Operations Management	3
INMGT-320	Quality Tools	3
FN-410	Food Policy Regulation and Law	3
FN-438	Experimental Foods	3
FN-450	Food Engineering	3
BIO-406	Food Microbiology	3
CHEM-136	College Chemistry II* or	
CHEM-331	Quantitative Analysis	3-5
CHEM-201	Organic Chemistry I	4
CHEM-311	Biochemistry	4
CHEM-315	Food Chemistry	3
CHEM-335	Instrumental Methods of Analysis	3
STAT-320	Statistical Methods	3
MATH-153	Calculus I or	
MATH-154	Calculus II	4
PHYS-211	Introduction to Physics	3

Select 3 credits from the following:

INMGT-XXX	Any Industrial Management	3
BUMGT-XXX	Any Business Management	3
FN-XXX	Any Food and Nutrition	3
HT-XXX	Any Hospitality and Tourism	3
BIO-XXX	Any Biology	3
CHEM-XXX	Any Chemistry	3
STAT-XXX	Any Statistics	3
CS-XXX	Any Computer Sciences	3
MATH-XXX	Any Mathematics	3

* Selecting CHEM-136 fulfills requirements of a chemistry minor.

Food Merchandising and Distribution**42 Credits**

BUACT-206	Introduction to Financial Accounting	3
BUMKG-334	Salesmanship and Sales Management or	
BURTL-229	Visual Merchandising	3
BUMKG-370	Principles of Advertising or	
BURTL-425	Current Retail Strategies for a Differential Advantage	2
BUMKG-438	Industrial Distribution	3
FN-225	Special Topics in Food and Nutrition or	
FN-325	Special Topics in Food and Nutrition	1-3
FN-202	Food and Beverage Distribution Industry	3
FN-470	Food Distribution Operations and Control	3
FN-410	Food Policy Regulation and Law	3
FN-420	Food Styling	3
HT-324	Quantity Food Production	4
HT-450	Food Service Administration	3
HT-323	Food Service Equipment	2
PSYC-377	Consumer Psychology	3
XXX-XXX	<i>Electives</i>	2

Select 3 credits from the following:

BUMGT-480	Entrepreneurship: Small Business Planning or	
BURTL-431	Service Management Strategies or	
HT-362	Food, Beverage and Labor Cost Controls or	
ECON-215	Principles of Economics II	3

Food Communication**42 Credits**

MEDIA-304	Elementary Photography	3
MEDIA-XXX	Food Photography	1
GCM-141	Graphic Communications and Electronic Publishing	3
GCM-345	Publications Production	3
BUMKG-334	Salesmanship and Sales Management	3
BUMKG-370	Principles of Advertising	3
BUMKG-479	Marketing Research	3
FN-310	Lifespan Nutrition	3
FN-325	Recipe Development and Cookbook Writing	1
FN-414	Catering or	
HT-424	Catering	3
FN-420	Food Styling	3
FN-438	Experimental Foods	3
FN-461	Multicultural Aspects of Food and Nutrition Patterns	3
FN-XXX	Any Food and Nutrition or	
HT-XXX	Any Hospitality and Tourism	2-3
ENGL-XXX	Any Journalism	2-3

Advanced speech and advanced writing are required. Take one in the Major Studies component and the other in the concentration.

Select 2-3 credits from the following:

ENGL-246	Informational Writing or	
ENGL-415	Technical Writing or	
SPCOM-308	Speech Skills for Business and Industry	2-3
MEDIA-XXX	Any Media Technology	2-3
GCM-XXX	Any Graphic Communications	2-3
BUXXX-XXX	Any Business Administration	2-3
ART-XXX	Any Art	2-3
ENGL-XXX	Any English or Journalism	2-3

Electives**2-6 credits required**

General Business Administration

Hugh Williamson, Program Director, 281C Jarvis Hall — Technology Wing, 715/232-2697

Introduction

The General Business Administration program at UW-Stout is unique in that it blends business with technology. It has a solid foundation of general-liberal studies and covers the functional areas of marketing, manufacturing, finance, personnel, accounting and law. It also requires comprehensive courses in policies, management information systems, leadership, and the legal and ethical aspects of management. The unique aspect of requiring credits in a technical component allows a student to tap one or more of Stout's technology areas such as construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management, and the like to complement the business program.

Recent graduates have obtained positions in areas of sales, retailing, production control, manufacturing supervision, purchasing, cost accounting, human resource management, restaurant management, customer service, banking and others.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Professional Preparation	8-9 credits
Major Studies	61 credits
Technical Component	10 credits
Electives	2-3 credits

A grade point average of at least 2.5 for the last 64 credits earned or a grade point average of 2.5 overall for UW-Stout credits earned in program is required.

Program Requirements

General Education

42 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition or	3
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	3
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2
B. Analytic Reasoning	6 credits
STAT-XXX Any Statistics	2
MATH-123 Finite Mathematics with Applications (or more advanced)	4
C. Health and Physical Education	2 credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	
D. Humanities and the Arts	9 credits
<i>Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.</i>	
E. Social and Behavioral Sciences	9 credits
ECON-210 Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>	
F. Natural Sciences (with Lab)	4 credits
G. Technology	2 credits
H. General Education Electives	2 credits
<i>Courses must come from categories A, B, D, E and F.</i>	
<hr/> Professional Preparation <hr/>	
8-9 credits	
Problem Solving	3 credits
<i>Select one course from the following:</i>	
RD-205 Design for Industry	3
ENGL-247 Critical Writing	3
LOG-250 Critical Thinking	3
LOG-301 Introduction to Logical Thinking	3
Business Writing	3 credits
ENGL-320 Business Writing or	3
ENGL-415 Technical Writing	3
Information Technology	2-3 credits
<i>Select one course from the following:</i>	
MEDIA-440 Telecommunication Systems and Teleconferencing	2
TCS-281 Data Communications	3
TCS-305 Office Automation Technology	3
TCS-307 Artificial Intelligence Applications in Business	2
TCS-481 Telecommunications Systems Administration	3
BUMIS-310 Management Information Systems	2
XXX-XXX Any computer-based information systems course from a specific technical emphasis area	1-3

Business Administration

BA-1000-0001 Business Administration Degree Program

Major Studies

61 credits required

At least 50 percent of these credits must be taken at UW-Stout.

Business Core

28 credits

INMGT-200	Production/Operations Management	3
BUMGT-100	Introduction to Business Administration	1
BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Introduction – Corporate and Managerial Accounting.....	3
BUMKG-304	Principles of Management.....	3
BULGL-318	Business Law I	3
BUMKG-330	Principles of Marketing	3
BUMIS-333	Management Information Systems – Decision Support Systems	3
BUACT-340	Business Finance	3
ECON-215	Principles of Economics II	3

Professional Core

33 Credits

Select one course from each of the following areas:

INMGT-XXX	Any Production Operations	3
BUACT-XXX	Any Accounting	3
BUMKG-XXX	Any Marketing	3
BULGL-XXX	Any Legal	3
BUMIS-XXX	Any Integrated Systems	3
BUMGT-XXX	Any Experiential Learning	2
XXX-XXX	Any Human Resources	3
BUINB-XXX	Any International or	3
ECON-480	International Trade	3
XXX-XXX	Any Management	2-3
INMGT-XXX	Any Practicum	3
XXX-XXX	Any Business Electives	4

Technical Component

10 credits required

Select courses related to one area of technology that relates to your selected professional core. Courses may be selected from construction, graphic arts management, information systems, logistics management, loss control, packaging, quality management, training, retail management, hospitality and tourism management or others with approval of the program director.

Electives

2-3 credits required

Graphic Communications Management

Ted Bensen, Program Director, 160 Communication Technologies Building, 715/232-1294

Introduction

The Bachelor of Science degree program in Graphic Communications Management prepares managers and supervisors for the printing and publishing industry. Students develop an understanding of the production process, from design through manufacturing of a product to distribution of that product. As members of a production team, graphic communication managers work with other professionals in the industry to make important decisions on design, estimating, materials, production planning, inventory, scheduling and quality control of printed products.

Through intensive hands on laboratory environment, the program addresses skills necessary for students to succeed in the global marketplace of print media. A strong emphasis is placed on the application of theory and laboratory experience to the solution of real world problems. This program will prepare pragmatic managers of print production with the ability to respond aggressively to the needs of the marketplace, to apply research and theory to the development of marketable print media products using efficient processes; and to design with an awareness of the realities of the manufacturing process, cost, environment and needs of the customer and society.

Students involved in Graphic Communications Management are required to enroll in an industrial work experience program for six to eight months in the printing, publishing and packaging industry to gain practical experience to bridge the gap from the academic classroom and laboratories of the university to the real world of work.

Well-rounded professionals are produced by a balanced curriculum made up of the following components: general education; professional management studies; prepress, press and postpress manufacturing systems; and professional electives.

Three student professional organizations complement the classroom and laboratory experiences encountered by Graphic Communications Management students. The Stout Typographical Society (STS) is a production-focused organization that runs a printing business and sponsors industry speakers, golf tournaments and social events, as well as an annual three-day industry field trip. The Technical Association of the Graphic Arts (TAGA) is a research-oriented organization whose members research and write technical research papers that are compiled into a technical publication and entered in a competition at an international conference each spring. Graphic Communications eXchange (GCX) is a management-oriented organization that promotes leadership and professional development in its members through a wide variety of activities.

The Graphic Communications Management program is accredited by the National Association of Industry Technology (NAIT).

Definitions

UW-Stout offers a degree program and a concentration that are similar in name. "Graphic Communications Management" and "Graphic Design" (*a concentration in the BFA in Art program*) are different, and offer students a choice of two professional areas.

Graphic Communications Management prepares supervisors and managers for the printing and publishing industry. Graphic communications managers work with other industry professionals to make decisions on design, estimating, materials, production planning, scheduling and quality control of all types of printed products and materials. Graphic communications managers need an understanding of the printing and publishing processes, including prepress, press and postpress systems.

Graphic Design encompasses all verbal and visual information produced for commercial reproduction. The graphic designer creates, selects and organizes elements to be reproduced in both print and nonprint formats. The purpose of graphic design is visual communication in a form that is attractive and easily understood. Print materials, exhibition design, video graphics, package design, signage, and corporate identification are examples of work produced by the graphic designer.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	53
Major Studies	63
Professional Selectives	8

Program Requirements

General Education

53 credits required

A. Communication Skills 10 Credits

ENGL-101 Freshman English – Composition	3
ENGL-102 Freshman English – Reading and Writing	3
SPCOM-100 Fundamentals of Speech	2
SPCOM-XXX Any Advanced Speech	2

B. Analytic Reasoning 6 Credits

STAT-XXX Any approved Statistics	2-3
MATH-121 Introductory College Mathematics II	4

C. Health and Physical Education 2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 Credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 Credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 13 Credits

CHEM-115 General Chemistry	5
PHYS-231 General Physics I	4
PHYS-232 General Physics II	4

G. Technology 2 Credits

H. General Education Electives 2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

63 credits required

Managerial and Professional Studies 29 credits

GCM-495 Graphic Communications Seminar	3
GCM-480 Customer Service/Production Coordination	3
GCM-X49 Cooperative Education Experience	2
INMGT-120 Quality Concepts	3
INMGT-200 Production Operations Management	3
INMGT-300 Engineering Economy	3
INMGT-400 Organizational Leadership	3
BAUCT-201 Financial – Managerial Accounting or	3
BAUCT-206 Accounting I	3
BUMKG-330 Principles of Marketing	3
ENGL-XXX Any Technical or Advanced Writing	3

Prepress, Press and Postpress Manufacturing Systems 34 credits

GCM-101 Introduction to Graphic Communications Management	1
GCM-141 Graphic Communications and Electronic Publishing	3
GCM-151 Electronic and Conventional Prepress	3
GCM-266 Press Systems	4
GCM-270 Postpress Operations and Distribution	3
GCM-356 Color Electronic Prepress	3
GCM-367 Reproduction Measurement and Control	3
GCM-475 Graphic Communications Cost Estimating	3
GCM-443 Graphic Communications Integrated Manufacturing	3
GCM-445 Publications Production	3
GCM-446 Digital Imaging	3
PKG-150 Packaging	2

Professional Selectives 8 credits

MEDIA-XXX Any Photography	2
TCS-141 Networking Fundamentals I	3
GCM-443 Graphic Communications Integrated Manufacturing	3
GCM-362 Screen and Speciality Print Manufacturing	3
GCM-363 Package Printing	3
GCM-367 Reproduction Measurement and Control	3
GCM-X49 Cooperative Education Experience	2-6
GCM-X99 Independent Study	2
RC-381 Occupational Safety/Loss	2-3
INMGT-302 Time Management	1
INMGT-305 Product and Inventory Control	3
INMGT-320 Quality Assurance	3
BUMGT-304 Principles of Management	3
BULGL-318 Business Law I	3
BUMKG-334 Sales and Sales Management	3
BUMKG-370 Principles of Advertising	3
BUNG-485 International Marketing	3
PKG-XXX Any Packaging	3
TRHRD-360 Training Systems for Business and Industry	3
DES-310 Graphic Design I	3
DES-410 Product and Packaging Graphics	3
BIO-150 Environmental Science	2
CHEM-341 Chemistry of Materials	4
PHYS-252 Laser Light and Waves	1
PHYS-335 Optics	3

XXX-XXX Other courses approved by program director.

Hotel, Restaurant and Tourism Management

Darrel Van Loenen, Program Director, 405 Home Economics Building, 715/232-2543

Introduction

Hotel, restaurant and tourism management is one of the largest and fastest growing industries in the United States. Each year, leisure time increases for thousands of Americans, and the demands on the hospitality industry are growing. Existing lodging and dining facilities are expanding and new businesses are developing to accommodate the increased demand for hospitality services.

UW-Stout's Hotel, Restaurant and Tourism Management majors receive a variety of training. The program includes studies in general education to provide students a flexible background, enabling them to adapt to a wide variety of situations in today's rapidly changing society. The four-year curriculum is designed to prepare competent, creative and responsible managers. Graduates are employed in the hospitality food and beverage industry, hotels and tourism facilities.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	82 credits

The student must fulfill the English adequacy and speech proficiency requirements prescribed by the respective departments. A "C-" (1.67) or better is required for each course in the major studies.

A 2.5 grade point average is required for graduation.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

STAT-130 Elementary Statistics	2
MATH-118 Concepts of Mathematics (<i>or more advanced</i>)	4

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

ECON-210 Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Course(s) must come from categories A, B, D, E or F.

Hospitality Management

Accredited by the Accreditation Commission for Community and Junior Colleges, Western Association of Schools and Colleges.

Learning Outcomes

Major Studies

82 credits required

Management

16 credits

HT-100	Introduction to Hospitality	2
HT-251	Hospitality Marketing and Sales	3
HT-451	Integrated Management Systems - Hospitality (seniors only)	3
HT-270	Introduction to Property Management or	
SRVM-111	Global Service Management	2
HT-200	Hospitality Organization Management	3
TRHRD-360	Training Systems in Business and Industry or	
INMGT-400	Organizational Leadership or	
PSYC-382	Human Resource Management	3

Food Service Management

16 credits

BIO-206	Food Service and Environmental Sanitation	1
FN-124	Foods	4
FN-106	Nutrition in the Hospitality Industry	2
HT-150	Institutional Food Purchasing	2
HT-324	Quantity Food Production	4
HT-426	Restaurant Operational Management	3

Lodging Management

8 credits

HT-130	Housekeeping Procedures	2
HT-133	Front Office Operations	3
HT-430	Lodging Administration	3

Tourism

5 credits

HT-140	Introduction to Tourism	2
HT-240	Tourism Goods and Services or	
HT-340	Development of Tourism Attractions	3

Professional Communications

5 credits

ENGL-320	Business Writing	3
XXX-XXX	Any Foreign Language	2

Financial Management

12 credits

BUACT-206	Introduction to Financial Accounting	3
HT-361	Hospitality and Tourism Accounting	3
HT-362	Food, Beverage and Labor Cost Controls	3
HT-462	Hospitality – Financial Analysis, Budget and Forecasting	3

Computer Application Skills

2 credits

HT-353	Computer Systems for Food Service	2
HT-373	Property Management Applications	2
HT-XXX	Yield Management	2

Law

8 credits

BULGL-318	Business Law I	3
HT-460	Hospitality Industry Law and Liability	3
HT-461	Hospitality Industry – Employee and Labor Relations	2

Hotel, Restaurant and Tourism Selectives

6 credits

Students should refer to a program plan or their adviser for a current listing of selectives.

Personal Development

2 credits

HDFL-XXX	Any Human Development and Family Living	
SPCOM-XXX	Any Speech Communication	
PSYC-XXX	Any Psychology	
EDUC-307	Applied Human Relations	2

Work Experience

2 credits

Must have completed 60 credit hours before work experience can be completed.

HT-498	Field Experience or	
HT-449	Cooperative Education Experience	2

Human Development and Family Studies

Judy Rommel, Program Director, 219 Home Economics Building, 715/232-2394

Introduction

The Human Development and Family Studies program is the study of human development and family life in which child, family and community are viewed as interrelated. A multidisciplinary approach provides content and theory to enhance the understanding of people and to develop creative approaches to serving them. Graduates of the program locate positions in family life education, human services and agency-related employment settings, in addition to being prepared for advanced study.

The program integrates academic study with significant experiential learning with children, families and community groups. Students are involved in observation/participation, field experience, independent study and practicum throughout the program. Hospitals, human service agencies, community groups, adolescent group homes and homes for senior citizens provide opportunities for the synthesis of practical and theoretical knowledge.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	48 credits
Major Studies	48 credits
Concentration or minor	22 credits
Electives	6 credits

Students must have a cumulative grade point average of 2.5 within the major studies for graduation.

* Required to become a Certified Family Life Educator by the National Council on Family Relations.

Program Requirements

General Education

48 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6 credits
Courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education	2 credits
Courses must be from areas of health, physical education or nutrition.	

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 15 credits

POLS-210 American Government	3
SOC-110 Introductory Sociology	3
PSYC-110 General Psychology	3

Remaining courses must be from two or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 4 credits

G. Technology 2 credits

H. General Education Electives 2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

48 credits required

HDFL-101 Introduction to Child Development and Family Life	1
HDFL-115 Individual and Family Relations*	3
HDFL-124 Human Development: Early Childhood*	3
HDFL-215 Dynamics of Family Development*	3
HDFL-225 Skill Training for Individual/Family Interventions*	3
HDFL-264 Child Guidance*	3
HDFL-280 Child Development II*	3
HDFL-330 Adulthood and the Family*	3
HDFL-335 Seminar – The Culturally Distinct Child and Family*	2
HDFL-336 Experience: The Culturally Distinct Child and Family	1
HDFL-340 Human Development: Aging Person*	3
HDFL-345 Family Health Care/Dilemmas and Decisions for Families* ...	2
HDFL-360 The Workplace and the Family*	2
HDFL-365 Family Resource Management*	2
HDFL-420 Family Research and Methodology*	3
HDFL-427 Child Abuse and Neglect	2
HDFL-450 Family Impact Seminar*	3
HDFL-490 Professional Issues in Human Development and Family Studies *	2
HDFL-491 Practicum in Human Development and Family Studies*	4

Concentration, Certification or Minor

22 credits required

Students complete the degree with selectives chosen in consultation with the program director, or any minor, pages 80 to 86, in consultation with the adviser.

Electives

6 credits required

Industrial Management

Wendy Dittmann, Program Director, 270 Jarvis Hall – Technology Wing, 715/232-1372

Introduction

Developed in response to place-bound professionals' need for additional education, the Bachelor of Science degree in Industrial Management is a collaborative effort between the UW Colleges, Wisconsin Technical Colleges, Dunwoody Institute in Minneapolis, and UW-Stout. The program offers evening and weekend classes using a variety of distance education methods, opportunity to build on previously completed technical education, and preparation for management and leadership challenges. Students prepare for managerial and leadership opportunities and increase salary potential in addition to growing personally and professionally in the breadth and depth of knowledge attained through previous education and experience.

An Associate of Applied Science or Associate of Science degree in a technical field is suggested. Students should possess two or more years of technical work experience; be willing to travel to receiver sites for live, interactive teleconferences/courses; and have Internet access (*through home, employer or local institution*) for Web-based instruction.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	42 credits
Completed AAS or AS degree (<i>Technical Emphasis</i>)	40 transfer credits

Program Requirements

General Education

42 credits required

A. Communication Skills

8 Credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 Credits

STAT-130 Elementary Statistics	2
MATH-120 Introductory College Mathematics I (<i>or more advanced</i>)	4

C. Health and Physical Education

2 Credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 Credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 Credits

ECON-201 General Economics or	
ECON-210 Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>	

F. Natural Sciences (with Lab)

4 Credits

G. Technology

2 Credits

H. General Education Electives

2 Credits

Course(s) must come from categories A, B, D, E or F.

Major Studies

42 credits required

INMGT-100 Introduction to Industrial Management	1
INMGT-120 Quality Concepts	3
INMGT-200 Production/Operations Management	3
INMGT-300 Engineering Economy	2
INMGT-400 Organizational Leadership	3
BUACT-201 Financial-Managerial Accounting	3
INMGT-305 Product and Inventory Control	3
INMGT-320 Quality Tools	3
INMGT-365 Project Management	2
INMGT-370 Issues Seminar	2
INMGT-460 Industrial Management	2
RC-381 Occupational Safety/Loss Control	3
BUMGT-116 Fundamentals of Business	3
TRHRD-360 Training Systems in Business and Industry	3
ENGL-415 Technical Writing or	
ENGL-346 Research Report Writing	3

Selective (3 credits required)

Choose from a list of selectives suggested by program director. If student has no professional/technical experience, INMGT-449 Cooperative Education Experience is required.

Manufacturing Engineering

Dan Bee, Program Director, 306 Fryklund Hall, 715/232-5247

Introduction

The Bachelor of Science degree program in Manufacturing Engineering is designed to prepare engineers as experts in the production process, from design through manufacturing. As a member of a production team, the manufacturing engineer works with other professionals in the design of products, particularly from the point of view of the efficiency of fabrication. They are responsible for selecting the right materials for various product applications and for determining the methods to be used in processing these materials into usable products. Through the use of computers, they design and control the automated systems capable of rapidly making the product in large numbers. They must make important management decisions regarding production planning, inventory, scheduling and quality.

Through the intensive hands on laboratory environment which is at the heart of UW-Stout's teaching strategy, the program addresses these required skills by placing strong emphasis on the application of theory to the solution of real world problems. Students function as a member of a production team as they practice concurrent product and system design, select the best product materials, select and design appropriate manufacturing processes and methods, and design automated systems and system control architectures.

In order to extend the accessibility of the program, a pre-engineering agreement has been made with the School of Engineering at UW-Platteville. Under the terms of the agreement, students may enroll in the engineering program of either institution and transfer to the other after up to two years of study at the first. As a result, students involved in this program have the opportunity to major in one of five engineering programs: manufacturing engineering at UW-Stout, or electrical, mechanical, civil or industrial engineering at UW-Platteville.

Manufacturing Engineering Mission and Goals

Increasing competitiveness in world markets puts a higher premium than ever on efficiency and innovation. Manufacturers rely on trained, dedicated professionals to develop and implement manufacturing methods and technologies vital to maintaining their competitive edge. The increasing complexity of the manufacturing environment requires engineers with the ability to address a wider array of technical problems. In addition, pursuit of continuous improvement, employee empowerment, and work teams creates a demand for technical professionals possessing the interpersonal skills needed to work with people at all levels of the organization.

The mission of UW-Stout's Manufacturing Engineering program is to prepare pragmatic engineers who will respond aggressively to the changing needs of the global marketplace, apply research and theory in the development of marketable products and efficient processes, and design with an awareness of the realities of manufacturing and the needs of society.

While the concepts developed through UW-Stout's application-oriented Manufacturing Engineering Program can be adapted to larger manufacturing firms with continuous production needs, the focus of the program is to develop graduates that meet the needs of small- and medium-sized manufacturers having discrete production requirements. This focus is consistent with UW-Stout's long-standing technology transfer outreach to small- and medium-sized manufacturers and best addresses the profile of the employers in the geographic region served by the program. With the in-depth technical toolbox developed by the hands on engineering curriculum, graduates of the program immediately contribute to improving a manufacturer's competitiveness.

The program mission is supported through the achievement of the following goals:

1. Apply the principles of mathematics and science to the solution of practical problems.
2. Apply concepts of engineering analysis.
3. Design products and manufacturing systems using contemporary methods.
4. Communicate effectively.
5. Function as a team facilitator or member.
6. Integrate sound management principles into the engineering process.
7. Practice his or her profession at the highest ethical standards.
8. Implement technology with an awareness of important societal issues.
9. Recognize the need for and have ability to engage in life-long learning.
10. Understand global and cultural issues.

General Requirements

Bachelor of Science Degree

Total for graduation	137
General Education	43
Major Studies	94

Program Requirements

General Education

43 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 8 credits

MATH-153 Calculus I	4
MATH-154 Calculus II	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from two areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy. A single depth requirement must be met in either Humanities and the Arts or Social and Behavioral Sciences.

E. Social and Behavioral Sciences 9 credits

Courses must be from two areas including anthropology, economics, geography, political science, psychology and sociology. A single depth requirement must be met in either Humanities and the Arts or Social and Behavioral Sciences.

F. Natural Sciences (with Lab) 5 credits

CHEM-135 College Chemistry I	5
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G. Technology 2 credits

Major Studies

94 credits required

Mathematics and Basic Sciences 20 credits

CHEM-341 Chemistry of Materials	4
STAT-330 Probability and Statistics for Engineering and the Sciences	3
MATH-250 Differential Equations With Linear Algebra	3
PHYS-281 University Physics I	5
PHYS-282 University Physics II	5

Engineering Core 13 credits

MECH-293 Engineering Mechanics	3
MECH-294 Mechanics of Materials	3
MFGE-145 Introduction to Manufacturing Engineering	1
MFGE-275 Applied Thermodynamics and Heat Transfer	2
ELEC-290 Circuits and Devices	4

Materials and Manufacturing Processes 19 credits

MFGE-320 Material Removal	3
MFGE-333 Polymer Processes	3
MFGE-343 Casting, Ceramic, Powder Metal Processes	3
MFGE-359 Bulk and Sheet Forming Processes	3
MFGE-375 Joining and Fastening	4
MFGE-383 Coating, Finishing and Packaging	3

Process, Assembly and Product Engineering 11 credits

MFGE-441 Design of Fixtures, Jigs and Tooling	3
MFGE-405 Capstone I: Product Design	3
CADD-112 Engineering Graphics I	3
CADD-113 Engineering Graphics II	2

Manufacturing Integration Methods and System Design 19 credits

MFGE-325 Computer Aided Manufacturing	3
MFGE-410 Capstone II: Manufacturing Systems Design	3
MFGE-440 Design and Simulation of Manufacturing Systems	3
MFGE-407 Flexible Manufacturing Systems	4
MFGE-363 Controls and Instrumentation	4
MECH-391 Fluid Mechanics	2

Manufacturing Competitiveness 12 credits

INMGT-200 Production and Operations Management	3
INMGT-422 Quality Engineering	3
INMGT-435 Facilities and Material Handling Systems Design	2
RC-381 Occupational Safety and Loss Control	2
INMGT-300 Engineering Economy	2

Marketing Education

Teaching certification in Marketing Education with the option of teaching certification in Business Education

Urs Haltinner, Program Director, 132 Communication Technologies Building, 715/232-1493

Introduction

The field of marketing requires training for owners, managers and employees engaged primarily in marketing goods and services. Marketing Education at UW-Stout provides the teachers to train the work force. Marketing Education is one area of career and vocational education supported by local, state and federal funds. Teachers graduating with this major are prepared to teach marketing education at the secondary and/or post-secondary levels. Many graduates enter marketing positions in business and industry.

Certification in Business Education is earned with an additional 19 credits of required courses and student teaching experience.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	82 credits
Additional Business Education Certification	18 credits

Although it is not a requirement for graduation, students should be aware of the fact that they must acquire a minimum of 4,000 hours of occupational experience before they can be certified to teach marketing education in Wisconsin and Minnesota.

Students must fulfill the English adequacy and speech proficiency requirements. Students enter the program with "pre-eduction" status. Earning a 2.75 or better grade point average and passing the Preprofessional Skills Test will formally move them into the Marketing Education program.

Participation in Collegiate DECA is required.

Note: Students are required to maintain a 2.75 grade point average throughout the marketing education program.

Program Requirements

General Education

42 credits required

A. Communication Skills *

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

* Grade point of 2.0 (C) or better is required in each course prior to student teaching.

B. Analytic Reasoning

6 credits

MATH-XXX Any Mathematics	4
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

LIT-XXX Any Literature	3
HIST-210 Modern World	3
XXX-XXX Any Creative/Performing Arts	1
Remaining courses must be from areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.	

E. Social and Behavioral Sciences **

9 credits

ECON-210 Principles of Economics I	3
POLS-210 Government	3
PSYC-110 General Psychology	3

F. Natural Sciences (with Lab)

4 credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 credits

H. General Education Electives **

2 credits

Courses must come from categories A, B, D, E and F. ** If students take ECON-215 Principles of Economics II as an elective, they meet the requirements for a Business Administration minor.

Business Education

Bachelor of Science in Business Administration

Major Studies

82 credits required

INMGT-400	Organizational Leadership or	
PSYC-382	Human Resource Management	3
BACT-206	Introduction to Financial Accounting	3
BUINB-260	International Business or	
BUINB-485	International Marketing	3
BACT-207	Introduction – Corporate and Managerial Accounting	3
BUMGT-304	Principles of Management	3
BULGL-318	Business Law I	3
BUMKT-330	Principles of Marketing	3
BUMKT-334	Salesmanship and Sales Management	3
BUMKT-370	Principles of Advertising	3
BUMKG-479	Marketing Research	3
MEBE-201	Introduction to Marketing Education	3
MEBE-202	Supervision of Business and Marketing Education Student Organizations	3
MEBE-301	Marketing Education Methods	3
MEBE-311	Marketing Education Project Method	2
MEBE-312	Pre-Clinical Experience: Marketing Education	1
MEBE-401	Marketing Education Curriculum	2
MEBE-409	Marketing Education – Student Teaching	16
MEBE-355	Marketing and Business Education Seminar	3
VTAE-302	Principles of Vocational, Technical and Adult Education	2
VTAE-360	Cooperative Occupational Education Programs	2
EDUC-303	Educational Psychology	3
EDUC-312	Introduction to Curriculum, Methods and Assessment	2
EDUC-326	Foundations of Education	2
EDUC-336	Multiculturalism: Issues and Perspectives	2
EDUC-376	Field Experience – Cross Cultural Experience <i>(or comparable experience)</i>	1
EDUC-382	Secondary Reading and Language Development	2
SPED-430	Inclusion of Students With Exceptional Needs	3

Business Education Certification

18 credits required

MEDIA-180	Microcomputer Applications – Words/Data	2
TCS-141	Networking Fundamentals	2
TCS-305	Office Automation Technology	3
BUMIS-333	Management Information Systems	3
ECON-215	Economics II	3
MEBE-411	Business Education Methods and Curriculum	5
MEBE-419	Business Education Student Teaching and	
MEBE-409	Marketing Education Student Teaching *	16

* Student teaching credits are not included in the total for Business Education Certification. A student majoring in Marketing Education is required to earn 16 credits of student teaching. Adding the certification does not change the total student teaching credits; the student will earn 8 credits each in business and marketing education.

Packaging

Ken Neuburg, Program Director, 281F Jarvis Hall – Technology Wing, 715/232-1246

Introduction

A packaging career today requires a thorough knowledge of materials, methods, design concepts, and machinery to develop and produce the packages that protect and preserve a product, help market the product and instruct the consumer in its proper use. UW-Stout's Bachelor of Science degree program in Packaging prepares students for technical or management responsibilities in the packaging industry to meet these needs. The program places strong emphasis on the application of theory to strengthen problem solving abilities and challenges students by providing opportunities to solution "real" packaging industry problems in classroom/laboratory settings.

The trend in the packaging industry is to hire employees who can function in more than one area at career entry. UW-Stout's Packaging program recognizes this trend by offering the student several "emphasis" options which include course and laboratory work beyond the technical core of the program. This distinguishing feature allows students to draw on other well-recognized programs offered at UW-Stout: graphic arts, graphic design, food science, business and sales, quality and manufacturing, and packaging research and development.

With the quantity and variety of products produced in the world, it is easy to understand that packaging is a dynamic multibillion dollar industry in need of well educated men and women. UW-Stout's Packaging graduates are positioned advantageously for entry into the expanding and evolving packaging industry, as well as for further studies in the field of packaging.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	54
Major Studies	55
Emphasis	15-16

Program Requirements

General Education

54 credits required

A. Communication Skills 10 credits

ENGL-101 Freshman English – Composition or ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2
From the approved list of General Education courses, select:	
SPCOM-XXX Any advanced speech or XXX-XXX Any foreign language	2

B. Analytic Reasoning 6 credits

STAT-130 Elementary Statistics	2
MATH-153 Calculus I	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-201 General Economics or ECON-210 Principles of Economics I	3
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Remaining courses must be from at least two other areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 16 credits

CHEM-115 General Chemistry or CHEM-125 Principles of Chemistry for Health Sciences or CHEM-135 College Chemistry I	5
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Select one Physics sequence:

PHYS-231 General Physics I and PHYS-232 General Physics II	8
PHYS-241 College Physics I and PHYS-242 College Physics II	10
PHYS-281 University Physics I and PHYS-282 University Physics II	10
Select 3 credits from:	

BIO-XXX Any approved General Education Biology elective	3
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G. Technology 2 credits

Major Studies

55 credits required

GCM-141 Graphic Communications and Electronic Publishing or ELEC-204 Electricity/Electronics Fundamentals	3
INMGT-120 Quality Concepts	3
INMGT-200 Production/Operations Management	3
INMGT-300 Engineering Economy	2-3
INMGT-400 Organizational Leadership	3
MFGT-110 Materials and Manufacturing Processes I	3
PKG-150 Packaging Fundamentals	2
PKG-200 Packaging Materials	3
MFGT-340 Plastics Processing	3
PKG-250 Consumer Packaging Systems	3
PKG-260 Distribution Packaging	3
PKG-335 Packaging Machinery	3
PKG-350 Packaging Design and Evaluation	3
PKG-490 Packaging Development	3
PKG-495 Packaging Seminar	2
CADD-112 Principles of Engineering Drawing	3
RD-205 Design for Industry or ART-101 Fundamentals of Design	3
CADD-234 Computer Assisted Design and Drafting	2
ENGL-415 Technical Writing or ENGL-346 Research Reporting	3

Select 2 credits from:

BIO-XXX Any Environmental Science	2
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Optional:

PKG-X49 Cooperative Education Experience	1-2
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Emphasis**15-16 credits required**

Select an emphasis to meet your career objectives.

Packaging Graphic Design

ART-100	Drawing I	3
ARTH-222	Introduction to Art or	
DES-205	Presentation Techniques	3
DES-200	Design Theory and Methods	3
DES-310	Graphic Design I	3
DES-360	Graphic Design II	3
DES-410	Product and Packaging Graphics	3
PKG-X49	Packaging Co-op	1-3

Manufacturing/Quality

INMGT-220	Quality Systems – Service Industries	3
INMGT-320	Quality Tools	3
INMGT-325	Quality Management	3

Select 9 credits from the following:

INMGT-305	Product and Inventory Control	3
INMGT-330	Material Handling	3
INMGT-340	Time and Motion Study	3
INMGT-350	Facilities Planning	3
BAUCT-410	Manufacturing Cost Analysis	3
PKG-X49	Packaging Co-op	1-3

Packaging Design Research and Development

Take one of the following 6 credit blocks:

MECH-290	Mechanics of Solids I or	
PHYS-331	Statics	3
MECH-291	Mechanics of Solids II or	
PHYS-325	Strength of Materials	3
PHYS-321	Statics and Strength and	
CADD-436	Computer Design Problems	6
RD-320	Prototype Development and Model Making	3
MECH-392	Mechanics of Machinery I or	
MECH-333	Dynamics	3
RD-420	Research and Development and	
RD-421	Research and Development Laboratory	3
CHEM-341	Chemistry of Materials	4
PKG-X49	Packaging Co-op	1-3

Package Printing

GCM-151	Electronic and Conventional Prepress	3
GCM-266	Press Systems	4
GCM-270	Postpress Operations and Distribution	3
GCM-356	Color Electronic Prepress	2
GCM-475	Graphic Communications Cost Estimating	3
GCM-343	Graphic Communications Integrated Manufacturing Practicum	3
GCM-363	Package Printing	3
PKG-X49	Packaging Co-op	1-3

Business/Sales

BUACT-200	Financial - Managerial Accounting: Engineering Technology or	
BUACT-206	Introduction to Financial Accounting	2-3
BUMGT-304	Principles of Management	3
BUMKG-330	Principles of Marketing	3
BUMIS-333	Management Information Systems-Decision Support Systems	3
BUMKG-334	Salesmanship and Sales Management	3
PKG-X49	Packaging Co-op	1-3

Foods/Packaging

FN-240	Food Science	4
FN-342	Advanced Foods	3
FN-350	Food Processing	3

Select 6 credits from the following:

FN-442	Basic Sensory Analysis	3
FN-410	Food Policy Regulation and Law	3
FN-450	Food Engineering	3
BIO-406	Food Microbiology	3
CHEM-315	Food Chemistry	3
PKG-X49	Packaging Co-op	1-3

Psychology

Richard Tafalla, Program Director, 326 Education and Human Services Building, 715/232-1662

Introduction

Psychology, as a program, is the systematic study of behavior, particularly the behavior of individuals—their actions, reactions and cognitions. It has as its overriding goal the preparation of students to contribute to the improved condition of man. Students acquire competencies that lead to employment wherever psychology is applied in educational institutions, public and private agencies, business and industry. Students entering the program should realize that they must obtain graduate level education or other advanced training before they will be accepted as professional psychologists.

Students are given the opportunity to develop a personal program plan centered around their individual needs and goals. With careful planning, students may include self-planned concentrations in their programs in such diverse areas as counseling foundations, biofeedback technology, human services, family issues, industrial psychology and many others. All students are expected to include a core of study in the fundamental principles of human behavior in their programs, and each is expected to develop literacy in the arts, humanities, natural sciences and social sciences. Each student is also expected to develop and demonstrate effective communication skills as a part of the program's requirements.

General Requirements

Bachelor of Arts Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	40 credits
Minor or second area of depth	13-22 credits
Additional Liberal Studies Requirement	14 credits
Electives	6 credits

Students must attain a minimum grade point average of 2.25 in required courses for the major and a minimum grade point average of 2.5 in other courses for the major.

Program Requirements

General Education

42 credits required

A. Communication Skills	8 credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6 credits
STAT-130 Elementary Statistics (or more advanced)	2
STAT-120 Introductory College Mathematics I (or more advanced)	4

C. Health and Physical Education	2 credits
Courses must be from areas of health, physical education or nutrition.	

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 Credits

Courses must come from categories A, B, D, E and F.

Major Studies

40 credits required

Required Courses

17 credits

PSYC-110 General Psychology	3
PSYC-190 Psychological Research Methods	4
PSYC-210 Introduction to Applied Psychology	3
PSYC-390 Experimental Psychology	4
PSYC-320 Psychology: Its History and Systems	3

Psychology Breadth Selectives

13 or more credits

Select at least one course from each of the following groups:

Group 1: Experimental

PSYC-451 Children's Learning	3
PSYC-330 Psychology of Learning	3
PSYC-335 Motivation and Emotion	3
PSYC-432 Perception	3

Group 2: Developmental Social

PSYC-251 Child Psychology	3
PSYC-270 Social Cognition and Behavior	3
PSYC-352 Adolescent Psychology	3

Group 3: Clinical

PSYC-460 Personality and Mental Health	3
PSYC-340 Psychology of Individual and Group Differences	3
PSYC-361 Abnormal Psychology	3
PSYC-490 Psychological Measurement	3

Group 4: Applied

459-309 Introduction to Biofeedback	3
PSYC-281 Environmental Psychology	3
PSYC-484 Introduction to Behavior Modification	2
PSYC-371 Introduction to Health Psychology	3
PSYC-381 Industrial Psychology	2

Group 5: Experiential

PSYC-X49 Cooperative Education Experience in Psychology	1-8
PSYC-X98 Psychology Field Experience	2
PSYC-480 Individual Research Project I and	
PSYC-481 Individual Research Project II	1
PSYC-X99 Independent Study**	2-3

**Must involve research and be approved by the program director as meeting the requirement of this category.

Specialization/Minor Instructional Areas

[View All Majors](#) | [View All Minors](#) | [View All Specializations](#)

Psychology Selectives

Selectives to bring the total to 40 credits. Select from any combination of the following options:

1. Additional courses from the Psychology Breadth Selectives.
2. Additional PSYC-XXX courses.
3. Behavioral science related courses offered by other departments subject to the program director's approval.

Minor or Second Area of Depth

13-22 credits required

Students are expected to take a minor, specialization or self-planned concentration. The self-planned concentration (22-credit minimum) allows students to select course work and learning experiences that relate to a particular area of interest, and must be planned with an adviser and approved by a committee of at least three persons designated by the Psychology Program Committee.

Additional Liberal Studies Requirements

14 credits required

Select 5 credits from the following:

BIO-XXX Any Biology	1-4
CHEM-XXX Any Chemistry	1-5
PHYS-XXX Any Physics	1-5

Select 3 credits from the following:

ENGL-XXX Any Writing	1-3
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Select 3 credits from the following:

ART-XXX Any Art	1-3
DES-XXX Any Design	1-3
LIT-XXX Any Literature	1-3
HIST-XXX Any History	1-3
MUSIC-XXX Any Music	1-3
PHIL-XXX Any Philosophy	1-3
THEA-XXX Any Performing Arts	1-3

Select 3 credits from the following:

ANTH-XXX Any Anthropology	1-3
ECON-XXX Any Economics	1-3
GEOG-XXX Any Geography	1-3
HIST-XXX Any History	1-3
POLS-XXX Any Political Science	1-3
SOC-XXX Any Sociology	1-3

Electives

6 credits required

Retail Merchandising and Management

Kathleen Cochran, Program Director, 327 Home Economics Building, 715/232-1365

Introduction

Retail Merchandising and Management is a program designed to prepare resourceful, creative and competent leaders who understand the retail industry. Students take courses such as sales promotion, accounting, merchandising and distribution as well as communications, English, mathematics, social studies and the humanities. A minor in Business Administration can be included in the requirements of the program. A highlight of the program is a retail practicum or co-op where the student works in retailing. Optional experiences and academic opportunities are also available including study abroad at the American Fashion College in London and a national study tour to retail related industries.

This program provides opportunities for careers such as group manager, store buyer, divisional merchandise manager, resident buyer, operations manager, personnel director, promotion-publicity manager and fashion director. Graduates with the interior decorating concentration may seek employment in retailing, interior studios, consulting or operating their own business.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	24 credits
Concentration	43-51 credits
Electives	7-15 credits

A minimum grade point average of 2.0 is required for graduation.

Definitions

UW-Stout offers two concentrations that are similar in name. "Interior Design" (B.F.A in Art) and "Interior Decorating" (B.S. in Retail Merchandising and Management) are different, and offer students a choice of two professional areas.

Interior decorators furnish and accessorize existing or planned spaces using knowledge of color, fabrications, interior decoratives and furniture, fixtures and equipment to accommodate each client's individual taste.

The interior decorating concentration in this program provides graduates with business and decorating skills to enter the marketplace in retailing, interiors studios, or their own business, including consulting.

Interior designers produce functional and meaningful interior environments (residential, commercial and public spaces) by integrating human factors, art and design concepts, space planning, knowledge of architecture, building construction, codes, specifications, materials and furnishings.

The interior design concentration in the Art program, pages 32 to 35, prepares graduates to solve interior design problems, including the initial design and remodeling of structures, as part of an architectural design team or as a consultant.

Program Requirements

General Education

42 credits required

A. Communication Skills	8 Credits
ENGL-101 Freshman English – Composition or ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2
<i>A minimum grade of "C" is required in each course. When courses in this category are transferred from other schools, grades as well as credits will apply.</i>	
B. Analytic Reasoning	6 Credits
MATH-XXX Any approved mathematics	4
<i>Remaining courses must be from areas of math, logic, statistics and computer science.</i>	
C. Health and Physical Education	2 Credits
<i>Courses must be from areas of health, physical education or nutrition.</i>	
D. Humanities and the Arts	9 Credits
<i>Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.</i>	
E. Social and Behavioral Sciences	9 Credits
ECON-210 Principles of Economics I	3
<i>Remaining courses must be from two or more areas including anthropology, geography, political science, psychology and sociology.</i>	
F. Natural Sciences (with Lab)	4 Credits
G. Technology	2 Credits
H. General Education Electives	2 Credits
<i>Course(s) must come from categories A, B, D, E or F.</i>	
Major Studies	
24 credits required	
<i>Students must complete 500 hours of approved and verified retail work experience (with a minimum of 250 hours with any one company) before completing the senior year.</i>	
BUACT-206 Introduction to Financial Accounting	3
BUMKG-330 Principles of Marketing	3
BURTL-222 Computer Applications	2
BURTL-227 Basic Merchandising	3
BURTL-430 Merchandise Planning and Control	4
BURTL-327 Store Management	3
BURTL-350 Marketing to Aging and Minority Consumers	2
PSYC-370 Interpersonal Effectiveness Training	2
<i>Select one of the following:</i>	
SPCOM-200 Persuasive Speaking	2
SPCOM-206 Discussion	2
SPCOM-236 Listening	2

Business Administration

Concentrations

43-51 credits required

Fashion Marketing

50 credits

BUMGT-304 Principles of Management	3
BURTL-222 Computer Applications	2
BUMKG-346 Target Marketing	3
BURTL-112 Trend Forecasting of Apparel/Home Products	3
BURTL-105 Introduction to Retail Merchandising and Management	1
APRL-140 Textiles	3
APRL-202 Quality Analysis of Sewn Products	3
BURTL-229 Visual Merchandising	3
BURTL-329 Fashion Merchandising Promotion	3
BURTL-389 Logistics for Retail Merchandising	3
BURTL-319 International Economic Trends in Textiles and Clothing	3
BURTL-425 Current Retail Strategies	2
BURTL-426 Fashion Retailing Practicum	4
ECON-215 Principles of Economics II	3
PSYC-382 Human Resource Management	3

Select one of the following:

BURTL-417 Social and Psychological Aspects of Clothing	3
APRL-411 History of Fashion	3

Select one of the following:

ENGL-320 Business Writing	3
ENGL-415 Technical Writing	3

Select one of the following:

BURTL-322 Merchandising and Marketing an Apparel Line	2
BURTL-335 Special Topics	2

Optional Experience/Opportunities

APRL-449 Retail Cooperative Education Experience	3-6
BURTL-477 Study Abroad – American Fashion College in London	16
BURTL-419 National Study Tour to Fashion Industries	1

Electives (8 credits)

A minor in Business Administration is automatic with completion of BUMGT-304 Principles of Management and BURTL-105 Introduction to Retail Merchandising and Management.

Buying/Management

(with a minor in Business Administration)

48-51 credits

BUACT-207 Managerial Accounting	3
BUMGT-304 Principles of Management	3
BUMIS-333 Management Information Systems	3
BUMKT-436 Marketing Management	3
BUMKT-346 Target Marketing	3
BURTL-105 Introduction to Retail Merchandising and Management	1
BURTL-229 Visual Merchandising	3
BURTL-329 Fashion Merchandise Promotion	3
BURTL-389 Logistics for Retail Merchandising	3
BURTL-417 Social and Psychological Aspects of Clothing	3
BURTL-425 Current Retail Strategies	2
BURTL-426 Fashion Retailing Practicum	4
ECON-215 Principles of Economics II	3
PSYC-382 Human Resource Management	3

Select one of the following:

BUINB-260 Introduction to International Business	3
BUINB-367 International Management	3
BUINB-485 International Marketing	3

Select one of the following:

ENGL-320 Business Writing	3
ENGL-415 Technical Writing	3

Select one of the following:

BURTL-335 Special Topics	2
BURTL-322 Merchandising and Marketing an Apparel Line	2

Buyers must take:

BURTL-490 Advanced Merchandise Plan Control	3
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Optional Experience/Opportunities

APRL-449 Retail Cooperative Education Experience	3-6
BURTL-477 Study Abroad – American Fashion College in London	16
BURTL-419 National Study Tour to Fashion Industries	1

Electives (7-10 credits)

Human Resource Management		43 credits
BUMGT-304 Principles of Management	3	
BUINB-367 International Management	3	
BURTL-105 Introduction to Retail Merchandising and Management	1	
BURTL-329 Fashion Merchandise Promotion	3	
BURTL-389 Logistics for Retail Merchandising	3	
BURTL-425 Current Retail Strategies	2	
BURTL-426 Fashion Retailing Practicum	4	
ECON-215 Principles of Economics II	3	
TRHRD-360 Training Systems in Business and Industry	3	
PSYC-382 Human Resource Management	3	
INMGT-400 Organizational Leadership	3	
ECON-421 Collective Bargaining	2	
SPCOM-414 Interviewing	1	

Select two of the following courses:

PSYC-403 Managing Employee Reward Systems	3
PSYC-485 Recruitment and Selection of Human Resources	3
VTAE-334 Task Analysis	3

Select one of the following:

ENGL-320 Business Writing	3
ENGL-415 Technical Writing	3

Optional Experience/Opportunities

APRL-449 Retail Cooperative Education Experience	3-6
BURTL-477 Study Abroad - American Fashion College in London	16
BURTL-419 National Study Tour to Fashion Industries	1

Electives (15 credits)

A minor in Business Administration is automatic with completion of BUMGT-304 Principles of Management and BURTL-105 Introduction to Retail Merchandising and Management.

Interior Decorating

47 credits

CADD-234 Computer Assisted Design and Drafting	2
BURTL-109 Introduction to Interior Decorating	3
APRL-145 Interior Decorating/Design Textiles	3
BURTL-229 Visual Merchandising	3
BURTL-409 Interior Decorating Studio (seniors only)	3
APRL-345 Textiles for Interiors	2
APRL-495 Historic and Contemporary Fabrics	3
FCSE-280 Family Housing	3
HT-493 Commercial and Residential Lighting	2
ART-101 Fundamentals of Design	3
DES-303 Interior Design	3
DES-314 Interior Specifications I	3
DES-304 Interior Design II	3
DES-205 Presentation Techniques	3
ARTH-333 Period Furnishings	3
ENGL-415 Technical Writing	3
BURTL-335 Special Topics	2

Optional Experience/Opportunities

APRL-449 Retail Cooperative Education Experience	3-6
BURTL-477 Study Abroad - American Fashion College in London	16
BURTL-419 National Study Tour to Fashion Industries	1

Electives (11 credits)

Service Management

Leland Nicholls, Program Director, 322 Home Economics Building, 715/232-2542

Introduction

The Service Management program at UW-Stout is the first of its kind in the nation. The major is unique because of its blend of service-specific core courses, for-profit and non-profit concentrations, and the choice of courses from areas of human development and relationships, business and finance, and communication and information technology. The professional core is based upon a strong foundation of arts and sciences.

The core service curriculum is focused upon three learning levels:

1. introductory level courses addressing the role of service in the global economy;
2. functional service area courses; and
3. upper level total service system integration courses.

An applied work experience via a field experience or cooperative education internship is required of each student. Area position titles include customer service operation/management, electronic information center management, human resource management, services quality management, service engineering, and customer relationship management.

General Requirements

Bachelor of Science Degree

Total for Graduation	124 credits
General Education	42 credits
Professional Components (Major Studies and Concentration)	82 credits

Program Requirements

General Education

42 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

STAT-130 Elementary Statistics or	
STAT-320 Statistical Methods	2-3
MATH-123 Finite Mathematics (or more advanced)	4

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-210 Principles of Economics I or	
ECON-201 General Economics	3

Remaining courses must be from two or more areas including anthropology, geography, political science and sociology.

F. Natural Science (with Lab) 4 credits

G. Technology 2 credits

H. General Education Electives 2 credits

Courses must be from categories A, B, D, E and F.

Major Studies

15-22 credits required

SRVM-111 Introduction to Global Service Management	2
SRVM-210 Services Operations Management	3
SRVM-354 Services Marketing Management	3
SRVM-410 Electronic Services Management	3
SRVM-367 International Service Management	3
SRVM-XXX Field Experience, Cooperative Education or Internship	1-8

Concentrations

40-43 credits required

For-Profit Service Sector Organization 40-43 credits

Business and Financial Management

Students must select at least one course from three of the subject areas.

RC-381 Occupational Safety/Loss Control	3
INMGT-120 Quality Concepts	3
INMGT-220 Quality Systems-Service Industry	3
INMGT-325 Quality Management	3
INMGT-400 Organizational Leadership	3
BUACT-206 Introduction to Financial Accounting	3
BUACT-207 Introduction to Corporate and Managerial Accounting	3
BUMGT-304 Principles of Management	3
BULGL-318 Business Law I	3
BUMKG-330 Principles of Marketing	3
BUMIS-333 MIS Decision Support Systems	3
BUACT-335 Accounting for Management Decisions	3
TRHRD-360 Training Systems in Business and Industry	3
BURTL-431 Service Management Strategies	3
SRVM-XXX Business Geographics	3
SRVM-XXX Service Response Logistics	3
SRVM-XXX Special Problems in Service Management	2
ECON-215 Principles of Economics II	3
STAT-320 Statistical Methods	3
PSYC-382 Human Resource Management	3

Human Development and Relationships

Select 10-11 credits

HDFL-115 Individual and Family Relations	3
HDFL-255 Lifespan Human Development	3
HDFL-270 Seminar on Self-Growth	2
HDFL-360 The Workplace and the Family	2
HDFL-XXX Gender Relationships	3
HDFL-XXX Relationship Theory System Dynamics	3
INMGT-400 Organizational Leadership	3
PHIL-375 Personal and Professional Ethics	3
PSYC-190 Psychological Research Methods	4
PSYC-379 Public Relations	2
PSYC-382 Human Resource Management	3
PSYC-403 Management of Employee Reward System	3
PSYC-490 Psychological Measurement	3
SRVM-260 Service Learning	3

Communication and Information Technology

Select 10-11 credits

MEDIC-360	Introduction to Media in Education and Training	2
MEDIA-440	Telecommunication Systems and Teleconferencing	2
TCS-281	Data Communications	3
TCS-283	Protocols and Interface Lab	3
TCS-305	Office Automation Technology	3
TCS-306	Introduction to Telephony	2
ENGL-207	Writing for the Media	3
ENGL-320	Business Writing	3
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting	3
SPCOM-200	Persuasive Speaking	2
SPCOM-236	Listening	2
SPCOM-312	Intercultural Communication	2
SPCOM-308	Speech Skills for Business and Industry	2
XXX-XXX	Any Foreign Language	2-4

General Electives (2 credits)**Non-Profit Service Sector Organizations****40-43 credits****Human Development and Relationships**

Students must select at least one course from three of the subject areas.

HDFL-115	Individual and Family Relations	3
HDFL-255	Lifespan Human Development	3
HDFL-270	Seminar in Self-Growth	2
HDFL-310	Family Stress, Coping, and Adaptation	1
HDFL-360	Workplace and the Family	2
HDFL-XXX	Gender Relationships	2
HDFL-XXX	Relationship Theory System Dynamics	2
INMGT-400	Organizational Leadership	3
SRVM-260	Service Learning	3
SRVM-XXX	Special Problems in Service Management	2
PHIL-235	General Ethics	3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies	2
EDUC-307	Applied Human Relations	2
EDUC-336	Multiculturalism: Issues/Perspectives	3
REHAB-102	Community Resources	2
REHAB-300	Grantsmanship for Helping Professions	3
REHAB-458	Rehabilitation Support System Networking	1
REHAB-402	Rehabilitation Program Operations	3
PSYC-190	Psychological Research Methods	4
PSYC-210	Introduction to Applied Psychology	3
PSYC-281	Environmental Psychology	3
PSYC-335	Motivation/Emotions	3
PSYC-374	Psychology of Women	2
PSYC-375	The Psychology of Marriage and the Family	2
PSYC-379	Public Relations	2
PSYC-403	Management of Employee Reward Systems	3
PSYC-382	Human Resource Management	3
PSYC-490	Psychological Measurement	3
XXX-XXX	Social Service Sector Management	3

Business and Financial Management

Select 10-11 credits

TCS-307	Artificial Intelligence Applications in Business	2
RC-271	Safety Principles and Practices	3
TC-381	Occupational Safety/Loss Control	2
INMGT-340	Time and Motion Study	3
BUACT-206	Introduction to Financial Accounting	3
BUACT-207	Corporate and Managerial Accounting	3
BULGL-318	Business Law I	3
BUMKG-330	Principles of Marketing	3
BUMIS-333	MIS Decision Support Systems	3
BUACT-340	Business Finance	3
BUMKG-479	Marketing Research	3
BUINB-XXX	Any international business course	3
TRHRD-360	Training Systems in Business and Industry	3
ECON-215	Principles of Economics II	3
ECON-325	Economics and Business Statistics	3
STAT-320	Statistical Methods	3

Communication and Information Technology

Select 10-11 credits

MEDIA-360	Introduction to Media in Education and Training	2
MEDIA-440	Telecommunication Systems and Teleconferencing	2
TCS-281	Data Communications	3
TCS-283	Protocols and Interface Lab	3
TCS-305	Office Automation Technology	3
TCS-306	Introduction to Telephony	2
ENGL-207	Writing for the Media	3
ENGL-320	Business Writing	3
ENGL-415	Technical Writing	3
ENGL-346	Research Reporting	3
SPCOM-200	Persuasive Speaking	2
SPCOM-236	Listening	2
SPCOM-312	Intercultural Communication	2
SPCOM-308	Speech Skills for Business and Industry	2
XXX-XXX	Any Foreign Language	2-4

General Electives (2 credits)**Individualized Concentration**

Self-designed concentration approved by program director. Courses must be from each area. Course selection requires prior approval by the program director.

Technical Communication

Bruce Maylath, Program Director, 150C Harvey Hall, 715/232-1358

Introduction

Technical Communication is a rapidly growing profession. Development of new technologies has increased the demand for professionals who can clearly explain policies, products and services to clients and customers. UW-Stout's program integrates communication theory with coursework in a chosen applied field. Applied fields include packaging, international studies, quality management, telecommunications, tourism, training and development, art and design, and business and management. Graduates of this program will have the skills to research, visualize, design, develop and oversee publication of both print and electronic documents.

Copy editing and preparation, multimedia authoring and critical, technical and freelance writing courses prepare you to write clearly for specific audiences. In addition, courses in an applied field of your choice supply the strong technical background crucial to communicating complex ideas to different audiences. Elective courses give you the chance to explore other areas, such as photography, creative writing and advanced rhetoric.

All students will participate in a co-op, internship or practicum after the sophomore or junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	43 credits
Major Studies	64 credits
Applied Field	17 credits

Program Requirements

General Education

43 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II or	
ENGL-113 Honors Seminar	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 6 credits

Courses must be from areas of math, logic, statistics and computer science.

C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 6 credits

G. Technology 2 credits

H. General Education Electives 1 credits

Course(s) must come from categories A, B, D, E or F.

Major Studies

64 credits required

Rhetoric and Language Skills 16 Credits

ENGL-343 Rhetoric of Technology or	
ENGL-371 Advanced Rhetoric	3
ENGL-218 Mass Communication	3
ENGL-247 Critical Writing	3
PHIL-235 General Ethics	3
SPCOM-312 Intercultural Communication	2

Select at least 2 credits from the following:

ENGL-XXX Current Topics (in advanced writing)	1-3
ENGL-345 Creative Writing	3
MEDIA-304 Elementary Photography	3
SPCOM-206 Discussion	2
SPCOM-208 Theory of Communication	3
SPCOM-236 Listening	2
SPCOM-200 Persuasive Speaking	2

Technical Communication Skills 14 Credits

ART-101 Fundamentals of Design	3
ENGL-207 Writing for the Media	3
ENGL-415 Technical Writing or	
ENGL-320 Business Writing	3
ENGL-435 Writing Technical Manuals	3
SPCOM-308 Speech Skills for Business and Industry	2

Production Skills 15 Credits

GCM-141 Graphic Communication and Electronic Publishing	3
GCM-356 Color Electronic Prepress	3
DES-310 Graphic Design I	3
ENGL-388 Writing Multimedia or	
ENGL-361 Hypertext Writing	3
ENGL-225 Copyediting and Preparation	3

Project Management and Client Relations Skills 11 Credits

ENGL-449 Cooperative Educational Experience or	
ENGL-437 Technical Writing Practicum	1-3
ENGL-471 Freelancing/Professional Writing	3
PSYC-379 Public Relations	2
BUMKG-330 Principles of Marketing or	
TRHRD-360 Training Systems in Business and Industry or	
GCM-445 Publications Production	3

Language/Computer Science 8-9 Credits

Choose one track:	
XXX-XXX Any Foreign Language I	4
XXX-XXX Any Foreign Language II	4
or	
CS-144 Computer Science I	3
CS-145 Computer Science II	3
LOG-301 Logic	3

Applied Field 17 Credits

An official minor or an equivalent field of study approved by the program director. Courses selected must total at least 17 credits.

Technology Education

Ken Welty, Program Director, 224D Communication Technologies Building, 715/232-1206

Introduction

Technology Education is a Bachelor of Science degree program consisting of 124 semester credits of general, professional and technical course work. The program leads to teaching certification in all 50 states. Although this program is designed to lead to an education degree, graduates find challenging career opportunities in business and industry as well. Students study fields such as communication, construction, manufacturing and transportation. They work with technologies such as computers, robots and lasers, and with more conventional equipment used in processing materials, energy and information. Students are required to complete at least 42 credits of general education in areas such as English, mathematics, science, speech and social studies. They are also required to complete 39 credits of professional education in areas of curriculum and instruction, human behavior and student teaching in a secondary school. Forty-three credits of technical work are also required. Of this, 30 credits are prescribed for all students in the majors and 13 credits permit study in a selected area of emphasis.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	82 credits

Students must have a cumulative grade point average of 2.75 or better to be admitted to advanced standing for teacher education. Graduation requires a 2.75 overall grade point average. See pages 17-18 for additional information. Participation in a related organization is required.

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENLG-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

MATH-XXX Any approved Mathematics	4-5
Remaining courses must be from areas including math, logic, statistics and computer science.	

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts*

9 credits

LIT-XXX Any Literature	3
XXX-XXX Any Creative/Performing Arts	3
Remaining course must be from areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts or philosophy. * Either HIST-210 Modern World must be taken under this category or ANTH-220 Cultural Anthropology must be taken under Category E.	

E. Social and Behavioral Sciences *

9 credits

POLS-210 Government	3
PSYC-110 General Psychology	3
Remaining course must be from areas of anthropology, economics, geography, political science, psychology or sociology.	

* See previous note under Category D.

F. Natural Sciences (with Lab)

4 credits

Choose a biology course, and either a chemistry or physics course.

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

82 credits required

Fundamentals of Technology

15 credits

MFGT-102 Manufacturing Materials and Processes I	3
MFGT-103 Manufacturing Materials and Processes II	3
MFGT-XXX Materials and Processes for Technology Education	3
RD-205 Design for Industry	3
TECED-390 Laboratory and Classroom Management in Technology Education	3

Human Endeavors

15 credits

TCS-304 Communications and Information Systems	3
INMGT-314 Industrial Enterprise Practicum	3
AEC-172 Construction Technology	3
TRANS-202 Transportation Systems	2
TRANS-203 Transportation Systems Laboratory	1
TRANS-204 Energy Technology	2
TRANS-205 Energy Technology Laboratory	1

Advanced Technical Studies	13 credits	Professional Education	39 credits
<i>Students will select one of the following emphases.</i>			
Automation and Manufacturing			
MFGT-303 Computer Aided Manufacturing	3	TECED-160 Introduction to Technology Education	1
MFGT-305 Robotics	2	TECED-260 Curriculum, Methods and Assessment for Technology Education	3
MFGT-310 Manufacturing System	3	TECED-360 Field Experience for Technology Education	1
MFGT-337 Numerical Control	3	TECED-460 Advanced Curriculum Methods and Assessment for Technology Education	3
CADD-112 Engineering Drawing I	2	TECED-409 Student Teaching	16
Design and Pre-engineering		EDUC-303 Educational Psychology	3
CADD-112 Engineering Drawing I	2	EDUC-312 Introduction to Curriculum, Methods and Assessment	2
CADD-113 Engineering Drawing II	3	EDUC-326 Foundations of Education	2
CADD-234 Computer Assisted Design and Drafting	2	EDUC-336 Multiculturalism: Issues and Perspectives	2
RD-320 Prototype Development and Model Making	3	EDUC-376 Field Experience – Cross Cultural Experience	1
RD-420 Research and Development	2	EDUC-382 Secondary Reading and Language Development	2
RD-421 Research and Development Laboratory	1	SPED-430 Inclusion of Students With Exceptional Needs	3
Architecture and Construction			
AEC-131 Architectural Graphics	3		
AEC-175 Construction Materials	1		
AEC-233 Architectural Design I	3		
AEC-237 Architectural Technology	3		
AEC-270 Heavy Construction Methods and Equipment	3		
Energy and Power Mechanics			
ELEC-204 Electricity/Electronics Fundamentals	3		
POWER-103 Power Mechanics	2		
POWER-260 Introduction to Fluid Power	2		
POWER-303 Mechanical Power Transmission	3		
POWER-499 Independent Study	3		
Graphic Communications			
GCM-141 Graphic Communications and Electronic Publishing	3		
GCM-151 Electronic Prepress	3		
GCM-266 Press Systems	4		
GCM-345 Publications Production or			
GCM-343 Graphic Communications Practicum	3		
Telecommunications Communications			
TCS-281 Data Communications	3		
TCS-283 Protocols and Interfacing Laboratory	3		
GCM-499 Independent Study	3		
TCS-306 Introduction to Telephony	2		
ELEC-204 Electricity/Electronics Fundamentals	3		
General Technology			
MEDIA-304 Elementary Photography	3		
GCM-141 Graphic Communications and Electronic Publishing	3		
MFGT-303 Computer Aided Manufacturing	3		
CADD-112 Engineering Drawing or			
AEC-131 Architectural Graphics	2-3		
POWER-103 Power Mechanics	2		
Electronics and Computers			
ELEC-204 Electricity/Electronics Fundamentals	3		
ELEC-271 Digital Logic and Switching	3		
ELEC-374 Microprocessor Fundamentals	3		
POWER-395 Seminar	1		
ELEC-XXX Electrical Systems Application	3		

Vocational Certification

A student who wishes to become certifiable to teach an advanced level occupational skills course in Wisconsin must complete this degree program, a course in Principles of Vocational, Technical and Adult Education, and a course in Organization and Administration of Cooperative Education Programs. The student must also have a minimum of 2,000 hours of related work experience.

Telecommunication Systems

John Weiss, Program Director, 205 Fryklund Hall, 715/232-5620

Introduction

The Telecommunication Systems program prepares graduates for leadership positions in a dynamic environment. Because telecommunication professionals deal with a broad range of business and technical issues, the program emphasizes managerial, technical and science skill courses. The field of telecommunications requires application of scientific, business and technical principles together with appropriate knowledge and support research, marketing, design, and systems integrating information technology.

Students apply theory to solve real-world problems in an intensive hands-on laboratory environment that is the heart of UW-Stout's teaching strategy. Emphasis is on telecommunications technologies that impact all levels of organizations, including: telephone systems, networking data communications systems, graphics, and video imaging.

Technical courses foster the development of understanding in systems creation, design, development, implementation, operations and management. Students take courses that provide the basic knowledge about the technical elements required in building voice, data, and video telecommunication systems. Students completing this program will earn the following highly respected professional certifications: Cisco CCNA, CCDA and one or more of the following: Cisco CCNP, CCDP and Microsoft MCSE.

Professional studies provide a solid managerial background while humanities and social science courses introduce students to methods of communications, motivation, and supervising people. Math and physical science courses help in solving technical and economic problems found in business.

Several work experience programs have been developed. Internships, field experience, independent study and cooperative education opportunities are available. You can work for a summer or semester earning college credit as well as a salary, while gaining a personal perspective of the business and technical world of the telecommunications.

Telecommunication Systems program graduates advance into telecommunications administrative and executive areas within an organization. The professional certifications earned give students a substantial competitive advantage when entering the job market.

General Requirements

Bachelor of Science Degree

Total for graduation	124
General Education	42
Major Studies	82

Program Requirements

General Education

42 credits required

A. Communication Skills 8 credits

ENGL-101 Freshman English – Composition or	8 credits
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	8 credits
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning 4 credits

MATH-153 Calculus I	4 credits
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C. Health and Physical Education 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences 9 credits

ECON-210 Principles of Economics I	3 credits
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Remaining courses must be from two additional areas including anthropology, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab) 8 credits

PHYS-231 General Physics I	4 credits
PHYS-232 General Physics II	4 credits

G. Technology 2 credits

Major Studies

82 credits required

Professional Management 24 credits

INMGT-120 Quality Concepts	3 credits
INMGT-400 Organizational Leadership	3 credits
BUACT-206 Introduction to Financial Accounting	3 credits
TCS-401 Telecommunication Policy and Regulations	3 credits

Choose three of the following:

BUACT-207 Introduction to Corporate and Managerial Accounting	3 credits
BUMIS-333 MIS Decision Support Systems	3 credits

ENGL-415 Technical Writing	3 credits
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INMGT-300 Engineering Economics	3 credits
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RC-381 Occupational Safety/Loss Control	3 credits
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STAT-320 Statistical Methods	3 credits
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TRHRD-360 Training Systems in Business and Industry	3 credits
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Choose one of the following:

BUMGT-304 Principles of Management	3 credits
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SRVM-XXX Help Desk Management	3 credits
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TCS-481 Telecommunication Administration	3 credits
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Computer Communications Minor

Course descriptions are located in the Academic Catalog under course numbers.

Professional Technical

	46 Credits
TCS-491 Wireless Systems	3
TCS-306 Introduction to Telephony	2
TCS-382 Network Systems Design	3
ELEC-260 Electrical Circuits	3
ELEC-271 Digital Logic and Switching	3
ELEC-274 Fundamentals of Microprocessors and Microcomputer Systems	3
ELEC-382 Electronic Communications	4
CS-144 Computer Science I	3
TCS-131 NOS Fundamentals	2
TCS-141 Networking Fundamentals I	2
TCS-142 Networking Fundamentals II	2
TCS-143 Networking Fundamentals III	2
TCS-144 Networking Fundamentals IV	2

Choose one sequence:

TCS-431 NOS Workstation and Server	3
TCS-432 NOS Network Infrastructure	3
TCS-433 NOS Directory Services	3
TCS-434 NOS Security	3

or

TCS-441 Scalable Internetworks	3
TCS-442 Remote Access Networks	3
TCS-443 Multi-Layer Switched Networks	3
TCS-444 Internetwork Troubleshooting	3

or

TCS-441 Scalable Internetworks	3
TCS-442 Remote Access Networks	3
TCS-443 Multi-Layer Switched Networks	3
TCS-445 Internetwork Design	3

Professional Electives

12 credits

The student may select courses listed under Professional/Management, courses required for any minor or specialization completed, or any courses in areas of BUXXX, CS, ELEC, INMGT, SRVM, TCS, or TRHRD. Suggested minors include Business Administration, Computer Science, or Technical Writing. A Cooperative Education Experience is recommended.

Vocational Rehabilitation

Mary Hopkins-Best, Program Director, 250E Vocational Rehabilitation Building, 715/232-1168

Introduction

The main objective of this program is to provide the field of rehabilitation with baccalaureate level personnel who have the competencies necessary to help persons with disabilities optimize their vocational potential. A general listing of these competencies includes:

1. Knowledge of the history, philosophy and development of the rehabilitation movement; knowledge of the rehabilitation process as it exists in various settings, including sheltered workshops, rehabilitation facilities, private rehabilitation, vocational rehabilitation agencies; knowledge of mental, physical and social disabilities plus the vocational limitations of these disabilities; knowledge of, and ability to utilize community resources to assist the handicapped; knowledge of, and ability to relate to allied professions: medicine, psychology, social work, physical therapy; and knowledge of, and ability to utilize occupational information and career planning methods.
2. Elementary skill in the use of vocational evaluation techniques, elementary skill in work adjustment and counseling techniques, and elementary skill in utilizing job placement and follow-up procedures for persons with disabilities.
3. Ability to interact effectively with persons with disabilities. This could include persons with physical, emotional and social disabilities such as mental illness, mental retardation, blindness, deafness, alcoholism, epilepsy, and those who have committed criminal offenses.

The graduates of this program are employed in sheltered workshops, rehabilitation facilities, state vocational rehabilitation agencies, private rehabilitation, correctional centers, business and industry, adult day care centers, mental health clinics, halfway houses, and a variety of other settings serving persons with disabilities. Students who complete Special Education Certification are endorsed for Wisconsin licensure to teach students with cognitive disabilities, grades 6-12. Opportunities for advancement to supervisory and administrative positions are excellent. Graduate study in rehabilitation is available in more than 80 colleges and universities.

Students must select their concentration option by the end of the first semester of their junior year. Students who do not complete a concentration must submit a written plan showing development of a coherent selection of coursework consistent with the objectives of the degree. The plan must be submitted and approved by the program director by the end of the first semester of the junior year.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	55 credits
Concentration, Minor or Specialization	22 credits
Electives	5 credits

Students who are taking the **Special Education Certification** concentration should turn to page 77 for program requirements. Students taking any of the other concentrations should refer to the program requirements that follow here.

Program Requirements for Vocational Rehabilitation

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3*
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3*
SPCOM-100 Fundamentals of Speech	2*

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

PSYC-110 General Psychology	3
Remaining courses must be from three or more areas including anthropology, economics, geography, political science and sociology.	

F. Natural Sciences (with Lab)

4 credits

BIO-132 Human Biology	4*
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G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

*Minimum grade of 2.0 is required; course must be repeated if minimum grade is not earned.

Major Studies**55 credits required**

A minimum grade of 2.0 is required in all rehabilitation studies. After earning 90 credits, students must maintain a 2.5 grade point average in rehabilitation studies to continue in the degree program.

Required Courses (34 Credits)

BIO-220	Physiology of Disabilities	3
REHAB-101	Introduction to Rehabilitation	3
REHAB-102	Community Resources	3
REHAB-205	Rehabilitation Practicum	3
REHAB-230	Psycho-Social Aspects of Disabilities	3
REHAB-310	Vocational Evaluation	3
REHAB-401	Principles and Techniques of Caseload Management	2
REHAB-410	Job Placement Processes	3
REHAB-420	Psychological Testing – People with Exceptional Need	3
REHAB-470	Work Adjustment Services	3
REHAB-481	Principles of Rehabilitation Counseling	3
REHAB-X98	Field Experience in Rehabilitation	2

Disability Selectives

Select three courses (6-9 credits) from the following:

SPED-300	Introduction to Individuals With Cognitive Disabilities	3
REHAB-325	Rehabilitation and Sensory Disability	3
REHAB-320	Rehabilitation and Chemical Dependency	3
REHAB-321	Rehabilitation of Public Offenders	3
REHAB-355	Rehabilitation of the Older Disabled Worker	2
REHAB-326	Rehabilitation and Mental Retardation	2
PSYC-361	Abnormal Psychology	3
SPED-430	Inclusion of Students with Exceptional Needs	3
SPED-301	Learning Disabilities	3
SCOUN-447	Behavior Problems of Children	2
SOC-360	Sociology of Juvenile Delinquency	3

Service Delivery Selectives

Select three courses (6-9 credits) from the following:

REHAB-402	Rehabilitation Program Operations	3
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-461	Forensics for the Rehabilitation Professional	2
REHAB-462	Disability Management	3
SOCWK-205	Introduction to Social Work	3
SOCWK-420	Child and Family Agencies	3
SOCWK-430	Social Casework Methods	3
SPED-324	Curriculum and Instruction: Career and Transition Education	3
REHAB-361	Microcomputer Applications in Rehabilitation	2
REHAB-488	Developing Collaborative Partnerships	3

Restricted Electives

Select 3-9 credits from the following:

REHAB-480	Advanced Rehabilitation Practicum	2-6
REHAB-300	Special Topics in Rehabilitation	1-2
REHAB-305	Sign Language I	3
REHAB-306	Sign Language II	3
REHAB-309	Introduction to Biofeedback	3
REHAB-365	Laboratory in Rehabilitation Technology	2
REHAB-482	Sexuality and Disability	2
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-X49	Rehabilitation Cooperative Education Experience	2-6
REHAB-X99	Independent Study	1-3
REHAB-483	Vocational Counseling Issues	1-3
HDFL-225	Skill Training for Individual and Family Interventions	3

Concentrations**22 credits required**

A minimum grade of 2.0 is required in all concentration courses.

Community-Based Rehabilitation**22 credits****Required Concentration Courses (15 credits)**

BUMKG-330	Principles of Marketing	3
VTAE-334	Task Analysis	2
REHAB-480	Advanced Rehabilitation Practicum	3
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-402	Management of Non-Profit Organizations	3

Restricted Concentration Electives (7 credits)

BULGL-318	Business Law I	3
TECH-340	Future of Work	1-2
ECON-420	Labor Economics	3
ECON-421	Collective Bargaining and Labor Relations	2
SOC-340	Sociology of Work	3
SPCOM-200	Persuasive Speaking	2
SPCOM-208	Theory of Communication	3
REHAB-500N	Community-Based Rehabilitation Systems	1
REHAB-462	Disability Management	3
REHAB-460	Rehabilitation in the Private Sector	3
REHAB-X99	Independent Study	1-3
PSYC-370	Assertive Training Procedures	2
PSYC-379	Public Relations	2
PSYC-382	Human Resource Management	3
REHAB-488	Developing Collaborative Partnerships	3

Independent Living Rehabilitation**22 credits****Required Concentration Courses (14 credits)**

COUN-405	Peer Counseling	3
REHAB-480	Advanced Rehabilitation Practicum	3
REHAB-350	Independent Living	2
REHAB-360	Assistive Technology	2
REHAB-482	Sexuality and Disability	2
PSYC-370	Assertive Training Procedures	2

Restricted Concentration Selectives (8 credits)

TECH-340	Future of Work	1-2
HDFL-115	Individual/Family Relations	3
HDFL-255	Lifespan Human Development	3
HDFL-340	Human Development: Aging Person	2
FN-102	Nutrition For Healthy Living	2-3
HT-280	Family Housing	3
HT-382	Family Finance	2
HT-360	Hospitality and the Handicapped Traveler	1
SOCWK-205	Introduction to Social Work	3
SOC-215	Sociology of the Family	3
SOCWK-420	Child and Family Agencies	3
COUN-475	Counseling Theory	2
REHAB-452	Group Processes in Rehabilitation Settings	2
REHAB-X99	Independent Study	1-3
PSYC-371	Introduction to Health Psychology	3
REHAB-488	Developing Collaborative Partnerships	3

Individualized	22 credits	Rehabilitation Technology	22 credits
Required Concentration Courses – none.		Required Concentration Courses (15-16 credits)	
Restricted Concentration Selectives – 22 credit block chosen in conjunction with and approved by program director.		RC-387 Human Factors Engineering 3 CADD-112 Engineering Drawing I or ART-100 Drawing I 2-3 RD-205 Design for Industry 3 REHAB-480 Advanced Rehabilitation Practicum 3 REHAB-360 Assistive Technology 2 REHAB-365 Laboratory in Rehabilitation Technology 2	
Recreational Rehabilitation	22 credits	Restricted Concentration Selectives (6-7 credits approved by adviser)	
Required Concentration Courses (11 credits)		RC-381 Occupational Safety/Loss Control 2-3 RC-383 Voluntary OSHA Compliance 2-3 MFGT-102 Manufacturing Materials and Processes I 3 MFGT-103 Manufacturing Materials and Processes II 3 MFGT-230 Metal Machining Technology 3 AEC-170 Light Construction Methods 2 CADD-234 Computer Assisted Design and Drafting or CADD-113 Engineering Drawing II 2-3 ELEC-204 Electricity-Electronics Fundamentals 3 POWER-260 Introduction to Fluid Power 2 POWER-362 Industrial Pneumatics 2	
Restricted Concentration Selectives (11 credits)		APRL-381 Functional Clothing Design 3 DES-200 Design Theory and Methods 3 CS-140 Computer Concepts 2 REHAB-X99 Independent Study 1-3 HLTH-355 Kinesiology 3 REHAB-361 Microcomputer Applications in Rehabilitation 2	
Note: No activity course may be counted both to fill physical education requirements in major and count as elective credit.		Criminal Justice	22 credits
Rehabilitation Counseling	22 credits	Required Concentration Courses (12 credits)	
Required Concentration Courses (14 credits)		SOC-315 Criminology 3 REHAB-321 Rehabilitation of Public Offenders 3 REHAB-488 Developing Collaborative Partnerships 3 REHAB-480 Advanced Rehabilitation Practicum 3	
COUN-405 Peer Counseling 3 REHAB-480 Advanced Rehabilitation Practicum 3 REHAB-320 Rehabilitation and Chemical Dependency 3 REHAB-452 Group Processes in Rehabilitation Settings 2 PSYC-460 Personality and Mental Health 3		Choose one Disability Selective (3 credits)	
Restricted Concentration Selectives (8 credits)		SPED-301 Learning Disabilities 3 SPED-300 Introduction to Individuals with Cognitive Disabilities 3 REHAB-326 Rehabilitation and Mental Retardation 2 PSYC-361 Abnormal Psychology 3 SOC-360 Sociology of Juvenile Delinquency 3	
TECH-340 Future of Work 1-2 HDFL-351 Death and the Family 1 HDFL-225 Skill Training for Individual/Family Interventions 3 HDFL-310 Family Stress, Coping and Adaptation 1 HDFL-370 Introduction to Marriage and Family Therapy 3 HDFL-425 Death Education and Counseling in Families 2 SOC-215 Sociology of the Family 3 SOCWK-420 Child and Family Agencies 3 SOC-340 Sociology of Work 3 SCOUN-301 Introduction to Guidance 2 COUN-475 Counseling Theory 2 COUN-494 Counseling Older Persons 2-3 REHAB-309 Introduction to Biofeedback 3 REHAB-321 Rehabilitation of Public Offenders 3 REHAB-482 Sexuality and Disability 2 REHAB-X99 Independent Study 1-3 PSYC-484 Introduction to Behavior Modification 2 PSYC-370 Assertive Training Procedures 2 PSYC-466 Alcoholism and Family Systems Intervention 2 REHAB-493 Vocational Counseling Issues 2 REHAB-488 Developing Collaborative Partnerships 3		Choose one AODA Selective (2-3 credits)	
		REHAB-300B Juvenile Use/Abuse of Alcohol and Other Drugs 2 REHAB-320 Rehabilitation and Chemical Dependency 3 PSYC-466 Alcohol and Family Systems Intervention 2	
		Choose one Prevention/Intervention Selective (2-3 credits)	
		HDFL-225 Skill Training for Individual/Family Interventions 3 SOCWK-430 Social Casework Methods 3 REHAB-452 Group Processes in Rehabilitation Settings 2	
		Choose one Diversity Selective (2-3 credits)	
		SOC-375 Sociology of Minority Groups 3 EDUC-307 Applied Human Relations 2 EDUC-336 Multiculturalism Issues and Perspectives 2 HDFL-335 Seminar: Cultural Distinct Child and Family 2	

Social Work	22 credits	F. Natural Sciences (with Lab)	4 Credits
SOCWK-205 Introduction to Social Work	3	Choose a biology course and either a chemistry or physics course.	
SOCWK-420 Child and Family Agencies	3		
SOCWK-430 Social Casework Methods	3		
HDFL-255 Lifespan Human Development	3		
HDFL-225 Skill Training for Individual/Family Interventions	3		
HDFL-335 Seminar: The Culturally Distinct Child and Family	2		
SOCWK-XXX Advanced practicum	2		
SOCWK-XXX Advanced Social Casework Methods	3		

Psychiatric Rehabilitation	22 credits
PSYC-361 Abnormal Psychology	3
PSYC-460 Personality and Mental Health	3
REHAB-XXX Psychiatric Rehabilitation	3
REHAB-488 Developing Collaborative Partnerships	3
REHAB-480 Advanced Practicum: Psychiatric Rehabilitation	3
REHAB-462 Disability Management	3
REHAB-452 Group Processes in Rehabilitation Settings	2
PSYC-466 Alcohol and Family Systems or	
REHAB-300 Juvenile Use and Abuse of Drugs	2

Electives	5 credits required
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Program Requirements for the Special Education Certification Concentration

Leads to Wisconsin #806 Licensure.

General Education	42 credits required
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A. Communication Skills	8 Credits
ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning	6 Credits
MATH-XXX Any Mathematics	4

Remaining course must be from areas of math, logic, statistics and computer science.

C. Health and Physical Education	2 Credits
Courses must be from areas of health, physical education or nutrition.	

D. Humanities and the Arts*	9 Credits
LIT-XXX Any Literature	3
XXX-XXX Any Creative or Performing Arts	1-3

Remaining course(*) must be from the areas of art history, history, music appreciation, performing arts and philosophy.* Either HIST-210 Modern World must be taken under this category, or ANTH-220 Cultural Anthropology must be taken under Category E.

E. Social and Behavioral Sciences*	9 Credits
POLS-210 Government	3
PSYC-110 General Psychology	3

Remaining courses must be from the following areas: anthropology, economics, geography and sociology.* See previous note under Category D.

F. Natural Sciences (with Lab)	4 Credits
Choose a biology course and either a chemistry or physics course.	
G. Technology	2 Credits
H. General Education Electives	2 Credits
Courses must come from categories A, B, D, E and F.	

Special Education Certification	
<i>82 credits required</i>	
Professional Education Core	16 credits
EDUC-303 Educational Psychology	3
EDUC-312 Introduction to Curriculum, Methods and Assessment	2
EDUC-326 Foundations of Education	2
EDUC-336 Multiculturalism: Issues and Perspectives	2
EDUC-376 Field Experience – Cross Cultural Experience	1
EDUC-382 Secondary Reading and Language Development	2
EDUC-310 Field Experience – Tutoring	1
SPED-430 Inclusion of Students With Exceptional Needs	3

Major Studies	65 credits
REHAB-101 Introduction to Rehabilitation	3
REHAB-102 Community Resources	3
REHAB-230 Psycho-Social Aspects of Disabilities	3
REHAB-310 Vocational Evaluation	3
REHAB-401 Principles and Techniques of Caseload Management	2
REHAB-410 Job Placement Processes	3
REHAB-420 Psychological Testing – People with Exceptional Need	3
REHAB-481 Application of Theories in Rehabilitation Counseling	3
PSYC-352 Adolescent Psychology or	
HDFL-355 Lifespan Human Development	3
SPED-481 Student Teaching Youth With Cognitive Disabilities	16
SPED-300 Introduction to Individuals With Cognitive Disabilities	3
SPED-318 Introduction to Teaching/Assessment in Special Education ..	2
SPED-322 Curriculum and Instruction: Functional Living Skills	2
SPED-323 Curriculum and Instruction: Academic Skills	3
SPED-324 Curriculum and Instruction: Career and Transition Education	3
SPED-326 Practicum in Special Education	2
SPED-328 Assessment for Individual Educational/Transitional Plans	3
SPED-462 Classroom Management Techniques	3
REHAB-488 Developing Collaborative Partnerships	3
See program director for GPA, student teaching, and practicum requirements that lead to certification by UW-Stout.	

Elective	1 credit
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Vocational, Technical and Adult Education

Michael Galloy, Program Director, 148 Communication Technologies Building, 715/232-2163

Introduction

This program prepares teachers for post-high school settings such as junior colleges, public and private technical colleges, and industrial training programs.

A student must obtain a minimum of 2,000 hours of appropriate work experience for provisional certification to teach vocational, technical and adult courses in Wisconsin technical colleges.

Students must make applications for admission to the education sequence. Candidates must hold a cumulative grade point average of at least 2.75.

Articulation Agreement There is an approved articulation agreement for this program with all of the Wisconsin Technical Colleges. The articulation agreement covers all Associate of Applied Art and Associate of Applied Science programs.

General Requirements

Bachelor of Science Degree

Total for graduation	124 credits
General Education	42 credits
Major Studies	75 credits
Electives	7 credits

Program Requirements

General Education

42 credits required

A. Communication Skills

8 credits

ENGL-101 Freshman English – Composition or	
ENGL-111 Freshman English – Honors I	3
ENGL-102 Freshman English – Reading and Related Writing or	
ENGL-112 Freshman English – Honors II	3
SPCOM-100 Fundamentals of Speech	2

B. Analytic Reasoning

6 credits

Courses must be from areas including math, logic, statistics and computer science.

C. Health and Physical Education

2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts

9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, performing arts and philosophy.

E. Social and Behavioral Sciences

9 credits

PSYC-110 General Psychology

3

Remaining courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences (with Lab)

4 credits

G. Technology

2 credits

H. General Education Electives

2 credits

Courses must come from categories A, B, D, E and F.

Major Studies

75 credits required

Technical

40 Credits

Because each student brings different qualifications as a result of prior training and experience, the student, with the assistance of the program director, will define all 40 technical credits in terms of student and job competency needs.

Professional Education

35 Credits

MEDIA-360 Introduction to Media in Education and Training	2
INMGT-400 Organizational Leadership or	
PSYC-382 Human Resource Management	3
TECED-205 Teaching Methods – Technology/Vocational Education**	2
TECED-405 Curriculum Technology/Vocational Education**	2
TECED-406 Evaluation in Technology/Vocational Education**	2
TECED-408 Student Teaching – Technology/Vocational Education or	
TRHRD-389 Training Internship	2-8
TRHRD-360 Training Systems in Business and Industry	3
VTAE-302 Principles of Vocational, Technical and Adult Education	2
VTAE-334 Task Analysis	2
VTAE-474 Adult Education	2
SCOUN-301 Introduction to Guidance**	2
EDUC-336 Multiculturalism: Issues and Perspectives**	2
EDUC-400 Educational Psychology for the Adult Learner	2

** Course content is mandated for Vocational, Technical and Adult Education certification.

Electives

7 credits required

Minors and Specializations



Minors

Teaching Minor at UW-Stout

Introduction

Minors are defined as either "studies in the discipline" or as "teaching." Teaching minors are those approved by the State Department of Public Instruction for certification. Requirements for the teaching minors include an education major, a methods course in the field, and some student teaching experience in the minor field in addition to the

required credits within the minor. The Approval Form for Minor Program must be submitted to the department offering the minor before starting the minor to assure an acceptable sequence of courses. Approval forms and minor program plans are available in the office of the department offering the minor.

Art

Department of Art and Design

22 credits are required.

Required Courses

AR-100 Drawing I	3
ART-101 Fundamentals of Design	3
ART-222 Introduction to Art	3

Selectives

The additional 13 selective credits may be accumulated to overview or concentrate in one area. Students may select courses in drawing, painting, printmaking, ceramics, art history, art metals, sculpture, interior design, industrial design and graphic design to fulfill the balance of the Art minor. A minimum of six credits must be completed at UW-Stout to receive an Art minor. A minimum grade of "C" (2.0) is required in all courses.

Biology

Department of Biology

20 credits are required

Required courses

BIO-122 Introductory Biology	3
BIO-332 Genetics	3

Select one option from the following:

Option I - Physiology Emphasis:

BIO-234 Physiology and Anatomy	4
BIO-362 Advanced Physiology	3

Option II - Ecology Emphasis:

BIO-150 Environmental Science	2
BIO-242 Botany or	4
BIO-252 Zoology	4
BIO-350 Ecology	3

Option III - Self-Directed Emphasis:

Selectives

For options I and II, choose credits from list provided by advisor to complete 20 credits. Students that choose the Self-Directed option III must work with an advisor in the Biology Department and must have the approval of the chair. Selected courses must include two laboratory courses, at least one of which must be at the 300 level or above.

Business Administration

Department of Business

22 credits are required.

Required Courses

BUACT-206 Introduction to Financial Accounting	3
BUACT-207 Introduction – Corporate and Managerial Accounting	3
BUMGT-304 Principles of Management	3
BUMKT-330 Principles of Marketing	3
ECON-210 Principles of Economics I	3
ECON-215 Principles of Economics II	3

Selectives

Select 4 credits from the list supplied by the department.

Chemistry

Department of Chemistry

22 credits are required.

Required Courses

CHEM-125 Principles of Chemistry for Health Sciences or	5
CHEM-135 College Chemistry I	5
CHEM-136 College Chemistry II	4

Select one of the following courses:

CHEM-204 Organic Chemistry II Lecture	3
CHEM-331 Quantitative Analysis	3
CHEM-335 Instrumental Methods of Analysis	3
CHEM-301 Physical Chemistry Lecture and	3
CHEM-303 Physical Chemistry Laboratory	1

Selectives

Additional departmental offerings to complete 22 credits will be selected.

A minimum grade of "C" (2.0) is required in all chemistry courses applied toward the chemistry minor.

Coaching

Department of Physical Education and Athletics

24 credits are required.

Area I: Medical Emergencies (5 credits required)

HLTH-340 ARC Standard First Aid and Personal Safety	2
HLTH-350 Prevention and Care of Athletic Injuries	3

Area II: Principles and Psycho-Social Foundations of Coaching (4 credits required)

PE-352 Theory and Management of Coaching	2
PE-362 Psycho-Social Aspects of Athletics	2

Area III: Methods and Strategies of Coaching (2 credits required)

PE-401 Coaching Gymnastics	2
PE-460 Coaching Basketball	2
PE-461 Coaching Football	2
PE-465 Coaching Competitive Swimming	2
PE-470 Coaching Baseball	2
PE-471 Coaching Track and Field	2
PE-477 Coaching Tennis	2
PE-478 Coaching and Officiating Volleyball	2
PE-479 Coaching Wrestling	2
PE-480 Coaching Young Athletes	2
PE-481 Coaching Ice Hockey	2
PE-483 Coaching Softball	2
PE-483 Coaching Soccer	2

Area IV: Kinesiological and Biomechanical Foundations of Coaching (7 credits required)

BIO-132 Human Biology or	
BIO-134 Physiology and Anatomy	4
HLTH-355 Kinesiology	3

Area V: Physiological Foundations of Coaching (3 credits required)

HLTH-365 Physiology of Exercise	3
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Area VI: Practicum in Coaching (required)

PE-490 Practicum in Coaching	1-3
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Area VII: Selectives

Select additional courses from the list supplied by the department for the 24-credit minor.

Computer Science

Department of Mathematics, Statistics and Computer Sciences

22 credits are required.

Required Courses

CS-144 Computer Science I	3
CS-145 Computer Science II	3
CS-241 Assembly Language Programming	3
CS-341 Data Structures	3

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department. Grades for courses taken for the minor must be 2.0 (C) or better.

Construction Risk Control

Department of Industrial Management and Technology

18 credits are required.

Required Courses

RC-388 Construction Safety	2
RC-382 Construction Risk Management	3
RC-383 Voluntary OSHA Compliance	3
AEC-449 Cooperative Education Experience	2

Selectives

Select 8 credits for selectives from program plan sheet supplied by advisor. The minor is specifically limited to Construction majors or those who have taken the eight construction course sequence containing the integrated Risk Control content.

Economics

Department of Social Sciences

22 credits are required.

Required Courses

ECON-210 Principles of Economics I	3
ECON-215 Principles of Economics II	3
ECON-325 Economic and Business Statistics or	
ECON-470 Economic Model-building and Forecasting	3
ECON-410 Microeconomics	3
ECON-415 Macroeconomics	3

Selectives

Select additional courses to complete 22 credits from the approved list supplied by the department.

English Teaching

Department of English and Philosophy

25-26 credits are required.

Required Courses

ENGL-340 The Structure of English	3
ENGL-247 Critical Writing	3
LIT-255 Recent World Literature	3
LIT-306 Shakespeare	3
ENGL-407 Teaching English in the Secondary and Middle School	2

Monitored student teaching in the discipline is required.

Select 3 credits from each of the following:

Group A

LIT-248 American Literature	3
LIT-260 Modern American Literature	3

Group B

LIT-301 English Literature	3
LIT-350 Modern British Literature	3

Selectives

Select 2-3 additional credits to complete the minor from the approved list supplied by the department.

Note: Grades of 2.5 or better in English and Literature courses are required for the minor to be awarded.

English Literature

Department of English and Philosophy

15 credits are required.

Take one or more courses in each of the following categories:

Historical Perspective (3 or more credits)

LIT-250 Classical and Biblical Literature in Translation	3
LIT-248 American Literature	3
LIT-350 Modern British Literature	3
LIT-260 Modern American Literature	3
LIT-301 English Literature	3
LIT-306 Shakespeare	3
LIT-450 Studies in Literature	1-3

Cultural and Societal Perspectives (3 or more credits)

LIT-202 The Family in Literature	3
LIT-208 Fiction Into Film	3
LIT-255 Recent World Literature	3
LIT-272 Woman Writers	3
LIT-273 American Multicultural Literature	3
LIT-281 Recent American Literature	3
LIT-450 Studies in Literature	1-3

Genre (3 or more credits)

LIT-203 American Poets	3
LIT-205 The Short Story	3
LIT-286 Detective Fiction	3
LIT-300 Children's Literature	3
LIT-304 American Folklore	3
LIT-280 Best Sellers	3
LIT-285 Science Fiction	3
LIT-450 Studies in Literature	1-3

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English and Literature courses presented for the minor.

English Writing

Department of English and Philosophy

15 credits are required

Select 12-15 credits from the following:

ENGL-207 Writing For the Media	3
ENGL-320 Business Writing	3
ENGL-245 Creative Writing	3
ENGL-246 Informational Writing	3
ENGL-247 Critical Writing	3
EGNL-356 Creative Writing Workshop	3
ENGL-399 Independent Study	1-2
ENGL-418 Writing On Issues	1
ENGL-325 Copy Editing and Preparation	2
ENGL-499 Independent Study	1-2
ENGL-415 Technical Writing	3
ENGL-346 Research Reporting	3

Selectives

Select 0-3 additional credits to complete the minor from the approved list supplied by the department.

At least six credits in the minor must be taken at UW-Stout. A student must have a 2.75 grade point average in those English courses presented for the minor.

Food Technology

Department of Food and Nutrition

35 credits are required.

Required Courses

INMGT-200 Production and Operations Management	3
PKG-180 Packaging Fundamentals	2
FN-124 Foods or	4
FN-240 Food Science	3
FN-212 Nutrition	3
FN-342 Advanced Foods	3
FN-438 Experimental Foods	3
FN-350 Food Processing	3
BIO-306 General Microbiology	4
CHEM-311 Biochemistry	4
CHEM-315 Food Chemistry	3
PHYS-211 Introduction to Physics	3

Health and Fitness

Department of Physical Education and Athletics

18-21 credits are required.

Required Courses

HLTH-375 Organization and Administration of Health Education	3
HDFL-115 Individual and Family Relations	or
HDFL-728 Family Life Issues	23
FN-102 Nutrition for Healthy Living	2
BIO-132 Human Biology	or
BIO-234 Physiology and Anatomy	4
HLTH-360 Personal Health and Wellness	3
HLTH-340 ARC Standard First Aid and Personal Safety	2
(or current certification)	
HT-390 Recreation and Fitness Management	2
HT-XXX Health and Fitness Practicum	2

Selectives

1-4 additional credits of selectives from program plan sheet supplied by advisor.

Health and Fitness Education

Department of Physical Education and Athletics

24 credits are required.

Required Courses

BIO-132 Human Biology	or
BIO-234 Physiology and Anatomy	4
HLTH-360 Personal Health and Wellness	3
HLTH-375 Methods in Health Education	2
HLTH-376 Organization and Administration of Health Education	3
HLTH-485 Student Teaching in Health Education	2

Selectives

10 additional credits of selectives from program plan sheet supplied by advisor.

A teaching major with professional education courses is required for teacher certification.

History

Department of Social Sciences

22 credits are required.

Required Courses

HIST-120	Early United States History	3
HIST-121	Modern United States History	3
HIST-140	Western Civilization	3
HIST-141	Western Civilization	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Students who take a teaching minor must include two of the following courses:

HIST-322	African-American History	3
HIST-360	Asian History	3
HIST-380	Latin American History	3

Two credits of EDUC-305 Teaching Practicum must also be taken, in addition to the 22-credit minor.

Human Resource Management

Department of Psychology

22 credits are required. Students are required to fulfill credit requirement in Sections A (9 credits) and F (2 credits) and complete credit requirements in 4 of the remaining 5 areas (Sections B-E, G).

A. Core courses (9 credits)

PSYC-382	Human Resource Management	3
PSYC-485	Recruitment and Selection of Human Resources	3
PSYC-403	Management of Employee Reward Systems (Compensation) ..	3

B. Diversity (2-3 credits)

PSYC-340	Psychology of Individual and Group Difference	3
INMGT-415	Women and Minorities in Management	2
PSYC-372	Psychology of Sex and Gender	3
REHAB-462	Disability Management	3

C. Teamwork (3 credits)

SPCOM-314	Interviewing	1
INMGT-430	Employee Involvement: Work Teams	2

D. Organization Training and Development (3 credits)

TRHRD-360	Training Systems in Business and Industry	3
INMGT-325	Quality Management	3

E. Leadership (3 credits)

EDUC-4XX	Transformational Leadership	3
INMGT-400	Organizational Leadership	3

F. Experiential (2 credits, with approval)

PSYC-X98	Psychology Field Experience	2
PSYC-X49	Cooperative Education Experience	1-8
PSYC-XXX	Human Resource Management Practicum	2

G. Other Supportive Courses (2-3 credits, with approval)

BULGL-318	Business Law I	3
BULGL-401	Legal Environment of Business	2
ECON-420	Labor Economics	3
ECON-421	Collective Bargaining and Labor Relations	2
INMGT-320	Quality Assurance	3
INMGT-325	Quality Management	3

Journalism

Department of English and Philosophy

22 credits are required.

Required Courses

MEDIA-304	Elementary Photography	2-3
GCM-141	Graphic Communications and Electronic Publishing	3
ENGL-207	Writing for the Media	3
ENGL-210	Journalism Practicum	1
ENGL-325	Copy Editing and Preparation	2

Writing Selectives

Select 3 to 10 credits from the following:

ENGL-320	Business Writing	3
ENGL-245	Creative Writing	3
ENGL-246	Informational Writing	3
ENGL-247	Critical Writing	3
ENGL-415	Technical Writing	3

Technical Specialty Selectives

Select up to 7 credits from the following:

ENGL-210	Journalism Practicum	1
ENGL-437	Technical Writing Practicum	1-3

Public Relations Emphasis:

BUMKG-370	Principles of Advertising	3
PSYC-379	Public Relations	2

Media Emphasis:

ENGL-318	Mass Communication: Effects of Technology on Society	3
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Production Emphasis:

GCM-345	Publications Production	3
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Lodging Management

Hospitality and Tourism Department

23 credits are required.

Required Courses

BUACT-206	Introduction to Financial Accounting	3
BULGL-318	Business Law	3
HT-133	Front Office Management	3
HT-130	Housekeeping Procedures	2
HT-200	Hospitality Organization Management	3
HT-251	Hospitality Marketing	3
HT-361	Hospitality Accounting	3
HT-430	Lodging Administration	3

Materials

Chemistry Department

22-27 credits are required.

Required Courses

MFGE-333	Polymer Processes	3
MFGE-343	Casting, Ceramics and Powder Metal Processes	3
CHEM-201	Organic Chemistry I	4
CHEM-301	Physical Chemistry Lecture	3
CHEM-303	Physical Chemistry Laboratory	1
CHEM-341	Chemistry of Materials	4

Selectives

Select one course with approval of minor adviser.

CHEM-440	Advanced Materials Laboratory	1-3
XXX-X99	Independent Study in Materials	1-3

Select one option with approval of minor adviser

Option 1

CHEM-470	Chemistry of Materials II	3
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Option 2

PHYS-331	Statics	3
PHYS-333	Dynamics	3

Option 3

MFGE-293	Engineering Mechanics	3
MFGE-294	Mechanics of Materials	3

As background for the materials minor, it is recommended that either CHEM-135 College Chemistry I, or CHEM-125 Chemistry for the Health Sciences be selected as a natural science general education course.

Mathematics

Department of Mathematics, Statistics and Computer Sciences

Teaching Certification

24 credits are required.

Twenty-two credits must be in the discipline and two credits in a teaching practicum.

Choose one option:

Option 1:

STAT-330	Probability and Statistics for Engineering and the Sciences ...	3
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Option 2:

STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3

Option 3:

STAT-320	Statistical Methods	3
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Required Courses

MATH-153	Calculus I or	
MATH-156	Calculus and Analytic Geometry I	4-5
MATH-154	Calculus II or	
MATH-157	Calculus and Analytic Geometry II	4-5
MATH-262	Modern Geometry	3
MATH-275	Linear Algebra	3
MATH-370	Modern Algebra I	3
EDUC-305	Teaching Practicum	2

Selectives

Additional courses to complete 24 credits will be selected with advisement.

Non-teaching Minor

22 credits required.

Required Courses

Select one option:

Option 1:

MATH-153	Calculus I	4
MATH-154	Calculus II	4

Option 2:

MATH-156	Calculus and Analytic Geometry I	5
MATH-157	Calculus and Analytic Geometry II	5

Select at least 9 credits from the following:

STAT-331	Probability and Mathematical Statistics I	3
STAT-332	Probability and Mathematical Statistics II	3
MSCS-446	Numerical Analysis I	3
MSCS-447	Numerical Analysis II	3
MATH-158	Calculus III	3
MATH-255	Differential Equations	3
MATH-262	Modern Geometry	3
MATH-275	Linear Algebra	3
MATH-350	Vector Analysis	3
MATH-370	Modern Algebra I	3
MATH-371	Modern Algebra II	3
MATH-450	Real Analysis I	3
MATH-460	Complex Variables With Applications	3

Select up to 6 credits from the following:

CS-141	Computer Programming – BASIC	2
CS-144	Computer Science I	3
CS-145	Computer Science II	3
CS-240	FORTRAN Programming	3
STAT-320	Statistical Methods	3

The course STAT-320 may not be included if either STAT-331 or STAT-332 is selected.

Note: Both the teaching and non-teaching minors require a grade point of 2.0 or better in all courses applied to the minor.

Physics

Department of Physics

22 credits are required.

Required Courses

Select one group from the following:

Group I:

PHYS-241	College Physics I	5
PHYS-242	College Physics II	5

Group II:

PHYS-281	University Physics I	5
PHYS-282	University Physics II	5
PHYS-329	Atomic and Nuclear Physics	3

Selectives

At least 9 credits from departmental offerings at the 300-level or higher must be included in the minor program.

Property Management

Department of Hospitality and Tourism

28 credits are required.

Required Courses

INMGT-450	Maintenance Management	2
BACT-206	Introduction to Financial Accounting	3
BULGL-318	Business Law I	3
BULGL-365	Principles of Real Estate	2
AEC-130	Hospitality, Living and Institutional Facility Planning	2
HDFL-220	Seminar on Self-Growth or	
PSYC-370	Assertive Training Procedures	2
HT-270	Introduction to Property Management	2
HT-373	Property Management Applications	2
HT-470	Seminar in Property Management	2
HT-498	Any hospitality and tourism field experience	1-2

Selectives

Additional courses approved by adviser to complete 28 credits will be selected.

Psychology

Department of Psychology

18 credits are required.

Required Courses

PSYC-110	General Psychology	3
PSYC-190	Psychological Research Methods	4
PSYC-251	Child Psychology or	
PSYC-352	Adolescent Psychology	3
PSYC-460	Personality and Mental Health or	
PSYC-361	Abnormal Psychology or	
PSYC-473	Psychology of Stress	2-3

Selectives

Select 5-6 or more credits from any of the courses above not already taken or from the list supplied by the department.

Quality Management

Department of Industrial Management

20-21 credits are required.

Required Courses

INMGT-120	Quality Concepts	3
INMGT-320	Quality Assurance	3
INMGT-325	Quality Management	3
INMGT-220	Quality Systems – Service Industries or	
INMGT-420	Quality Practicum	3-4

Selectives

Select 8 additional credits from the list supplied by the department.

Retailing

Department of Business

21 credits are required.

Required Courses

BURTL-112	Trend Forecasting	3
BURTL-227	Basic Merchandising	3
BURTL-229	Visual Merchandising or	
BURTL-327	Store Management	3
BURTL-329	Fashion Promotions	3
BURTL-425	Current Retail Strategies	2
BURTL-430	Merchandise Planning and Control	4

Selectives

3-6 additional retail course credits approved by the department.

Sociology

Department of Social Sciences

21 credits are required.

Required Courses

ANTH-220	Cultural Anthropology	3
SOC-110	Introductory Sociology	3
SOCWK-205	Introduction to Social Work	3

Selectives

Additional courses to complete 21 credits will be selected from the program plan sheet provided by the department.

Note: A minimum grade of C- is required for each course in the minor with an overall grade point average of 2.5 in required courses. The three required courses and at least two selective courses must be completed at UW-Stout to fulfill the residency requirement.

Spanish

Department of Speech Communication,
Foreign Language, Theatre and Music

24 credits are required.

Required Courses

SPAN-121	Practical Spanish I and	
SPAN-122	Practical Spanish II	4
	or	
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II	4
SPAN-201	Intermediate Spanish I	4
SPAN-202	Intermediate Spanish II	4
SPAN-227	Conversation and Composition	2
SPAN-229	Hispanic Literature in America	2

4-6 additional Spanish course credits approved by the Spanish advisor.

Speech Communication

Department of Speech Communication,
Foreign Language, Theatre and Music

Teaching minor

22 credits are required.

Required Courses

ENGL-318	Mass Communication in American Society	3
SPCOM-101	Forensics	1-2
SPCOM-102	Forensics	1-2
SPCOM-200	Persuasive Speaking	2
SPCOM-202	Oral Interpretation	2
SPCOM-206	Discussion	2
SPCOM-208	Theory of Communication	3
SPCOM-210	Interpersonal Speech Communication	1-2
SPCOM-236	Listening	2
SPCOM-310	Introduction to Speech Correction	2
SPCOM-312	Intercultural Communication	2
SPCOM-412	Teaching Speech in Middle and Secondary Schools	2

To achieve certification, students must participate in a monitored student teaching experience in a speech communication discipline or disciplines. A minimum grade point average of 2.75 with no grade lower than "C" is required. At least six (6) credits of the minor must be from courses offered by the UW-Stout Speech department to fulfill the residency requirement.

Discipline Minor

17 credits are required.

Required Courses

SPCOM-100	Fundamentals of Speech	2
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Selectives

Select 17 credits from the list supplied by the department and approved by the Speech Minor adviser to best fulfill your individual, career and academic needs.

Technical Writing

Department of English and Philosophy

15 credits are required.

Required Courses

ENGL-325	Copy Editing and Preparation	2
ENGL-415	Technical Writing	3
ENGL-435	Writing Technical Manuals	3
ENGL-437	Technical Writing Practicum	1-3

Select two courses from the following:

XXX-X49	Cooperative Education Experience	2-8
ENGL-207	Writing for the Media	3
ENGL-246	Informational Writing	3

Tourism

Department of Hospitality and Tourism

24 credits are required.

Required Courses

HT-140	Introduction to Tourism	2
HT-340	Development of Tourism Attractions	3
HT-240	Tourism Goods and Services	3
HT-440	Sociocultural Systems of Tourism	3
HT-341	Geography of Tourism	3
HT-360	Hospitality and the Handicapped Traveler	1

Select 4 credits from the following:

FREN-101	Elementary French I	4
FREN-102	Elementary French II	4
SPAN-103	Elementary Spanish I	4
SPAN-104	Elementary Spanish II	4

A comparable number of credits in a well-known language used in travel and trade may be substituted.

Selectives

Five credits required.

Traffic Safety Education

Risk Control Center

22 credits are required.

Required Courses

RC-271	Safety Principles and Practices	3
RC-374	Driver Education Laboratory Methods and Techniques	3
RC-375	Driver and Traffic Safety	3
RC-341	Alcohol, Drugs and Accident Prevention	3
RC-372	Behavioral Approach to Accident Prevention	3

Select 7 credits from the following:

MEDIA-360	Introduction to Media in Education and Training	2
RC-381	Occupational Safety/Loss Control	2-3
TECED-205	Teaching Methods Technology/Vocational Education	2
TECED-405	Curriculum Technology/Vocational Education	2
FCSE-201	Presentation Strategies for Family and Consumer Sciences ..	2
FCSE-301	Family and Consumer Sciences Education Curriculum	3
SCOUN-301	Introduction to Guidance	2
EDUC-303	Educational Psychology	3
HLTH-340	ARC Standard First Aid and Personal Safety	2

Vocational Rehabilitation

Department of Rehabilitation and Counseling

22 credits are required.

Required Courses

REHAB-101	Introduction to Rehabilitation	3
REHAB-102	Community Resources	3
REHAB-205	Rehabilitation Practicum	3-4
REHAB-230	Psychosocial Aspects of Disability	3

Selectives

Additional departmental offerings to complete 22 credits will be selected.

Women's Studies

College of Arts and Sciences

22 credits are required.

Required Courses

WS-210	Introduction to Women's Studies	2
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Selectives

Additional courses to complete 20 credits will be selected with approval of the advisor.

Specializations

Introduction

Specializations are programs of study, with carefully constructed learning goals and experiences, and evaluation procedures. While course work may be included in a specialization, students may also work to meet learning goals through internships, working with a mentor, successfully completing a proficiency examination or certification examination, or other non-classroom experiences. Courses may come from several de-

partments and involve faculty from several disciplines.

- Courses taken to complete a specialization may also fit elsewhere in a student's program of study.

Students who complete a specialization will have the specialization recorded on their transcript and will receive a certificate of completion.

Disability Accommodation in Business and Industry

This specialization will provide participants with the skills to work effectively within business and industry settings to maximize gainful employment opportunities and productivity for persons with disabilities. Participants will be able to develop, implement and evaluate

disability initiatives and policies, and understand the need to work effectively at all levels of business and industry in order to provide optimal accommodations for persons with disabilities.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
Students will be able to:	The following courses (22 credits) are required. Alternative means of demonstrating competencies will be reviewed by faculty.	
1. Identify principles and concepts of organizational structure, leadership styles, and corporate culture that impact the employment of people with disabilities in business and industry.	INMGT-400/600 Organizational Leadership REHAB-462/662 Management of Employees with Disabilities PSYC-382/582 Human Resource Management	3 3 3
2. Describe the roles of a rehabilitation professional when providing employer-based disability services, which includes working at all levels of business and industry from a team perspective.	REHAB-360/560 Assistive Technology REHAB-462/662 Management of Employees with Disabilities REHAB-460/660 Rehabilitation in the Private Sector	2 3 3
3. Demonstrate attitudes and skills needed to solve unique problems of workers with disabilities, including the issues of return-to-work.	REHAB-360/560 Assistive Technology REHAB-462/662 Management of Employees with Disabilities REHAB-460/660 Rehabilitation in the Private Sector REHAB-7XX Field Study or REHAB-480 Advanced Practicum or REHAB-XXX Cooperative Education	2 3 3 2*
4. Recognize the need to address the concerns, needs, and fears of employers in hiring and employing people with disabilities.	RC-387/587 Human Factors Engineering/Ergonomics REHAB-462/662 Management of Employees with Disabilities REHAB-460/660 Rehabilitation in the Private Sector REHAB-7XX Field Study or REHAB-480 Advanced Practicum or REHAB-XXX Cooperative Education PSYC-382/582 Human Resource Management	3 3 3 2* 3
5. Demonstrate the principles of cost containment in disability management including workplace safety, ergonomics, employee assistance programs, and disability prevention.	RC-381/581 Principles of Occupational Safety and Loss RC-387/587 Human Factors Engineering/Ergonomics REHAB-462/662 Management of Employees with Disabilities REHAB-7XX Field Study or REHAB-480 Advanced Practicum or REHAB-XXX Cooperative Education	3 3 3 2*
6. Explain pertinent laws and legislative initiatives as well as relevant insurance regulations and their impact on business and industry.	REHAB-462/662 Management of Employees with Disabilities REHAB-460/660 Rehabilitation in the Private Sector	3 3
7. Analyze company's policies and procedures specific to disability-related problems and risks including identification of the primary barriers to cost containment.	REHAB-7XX Field Study or REHAB-480 Advanced Practicum or REHAB-XXX Cooperative Education	2*

Evaluation

Employer Analysis

In order to develop an understanding of business and industry and the roles of a rehabilitation professional who provides disability services in business and industry, an integral component of the specialization is an *in vivo* exposure to a business environment that will provide an internal perspective.

The student/employer interaction will be culminated by an APA style paper to include a general overview of the company, a review of the company's experience with disability, an analysis of policies and procedures specific to disability related problems and risks, a review of previous interactions with rehabilitation professionals and consultants, identification of the primary barriers to cost containment and facilitating effective management of disabilities, and recommendations for future service delivery emphasizing the potential role(s) of the rehabilitation professional. Evaluation for the employer analysis exercise: oral presentation and faculty review of and approval of the final report.

Gerontology Certification

Gerontology Certification

The populations of the United States and the world are growing older, precipitating important changes in health and social policies. At present, one in eight Americans are 65 or older. These growing numbers will increase demand for individuals with gerontological skills and knowledge. The Gerontology Certification requires 20 credits, or

equivalent, and includes a required core and practicum through which students study aging as an interactive process of physical, social and psychological forces. Two credits of field experience with aging-related content will be required in the student's own major area of study.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
The following outcomes will be achieved through required courses:		
1. Identify major biological theories of aging.	BIO-125 Biology of Aging	3 Exam, papers, reports 2.0 grade point average
2. Identify and describe the biological changes associated with aging.		
3. Recognize normal and pathological changes that occur in organ systems with age.	HDFL-340/540 Human Development: Aging Person	3 Exam, papers, reports BIO-125 Biology of Aging
4. Comprehend the social, political and economic aspects of aging.	HDFL-340/540 Human Development: Aging Person	3 Exam, papers, reports 2.0 grade point average
5. Recognize and discard stereotypes associated with aging.		
6. Work in direct or indirect service to the older population.	Field Experience	Evaluation of field experience
The following outcomes may be achieved through the student's selection of elective courses:		
7. Understand lifespan concept of development and demonstrate an integrated knowledge of the aging individual within the context of family.	HDFL-255 Lifespan Human Development	3 Exam, papers, reports 2.0 grade point average
8. Understand the reciprocal nature of family caregiving.	HDFL-341/541 Family Caregiving to Dependent Elders	1 Exam, papers, reports 2.0 grade point average
9. Understand the process of grief for older adults.	HDFL-425/625 Death Education and Counseling in Families	2 Exam, papers, reports 2.0 grade point average
10. Recognize personal and cultural attitudes toward death.	HDFL-351 Death and the Family	1 Exam, papers, reports 2.0 grade point average
11. Identify and understand the ethical issues related to health care for the elderly.	HDFL-345/545 Health Care Dilemmas and Decisions for Families	2 Exam, papers, reports 2.0 grade point average
12. Demonstrate ability to plan and develop nutritious meals and programs for older individuals which take into account physical and financial limitations.	FN-405/605 Nutrition for the Aged	2 Exam, papers, reports 2.0 grade point average
13. Assist aging individuals, especially those with physical limitations, to find suitable and aesthetically pleasing clothing. Understand the product needs of older consumers and the promotional strategies used to market to this population.	BURTL-335/535 Topics: Minorities and Aging Consumers	2 Exam, papers, reports 2.0 grade point average
14. Understand counseling approaches and techniques for working with aging families in order to construct models for counseling older individuals and their families.	COUN-494/694 Counseling the Older Person	2-3 Exam, papers, reports 2.0 grade point average
15. Assist older individuals and their families with financial planning.	HT-488 Financial Planning for Retirement	2 Exam, papers, reports 2.0 grade point average
16. Identify the effects of exercise upon an older individual.	HLTH-365 Physiology of Exercise	3 Exam, papers, reports 2.0 grade point average
17. Explain the psychological and physiological dimensions and impact of disability from a developmental perspective.	BIO-220 Physiology of Disabilities	3 Exam, papers, reports REHAB-230 Psychosocial Aspects of Disability
	REHAB-682 Sexuality and Disability	2 Exam, papers, reports 2.0 grade point average
18. Identify needs and difficulties unique to older disabled workers.	REHAB-355/555 Rehabilitation of the Older Disabled Worker	2 Exam, papers, reports 2.0 grade point average
19. Identify formal support systems available to older persons with special needs or national, state and local needs.	REHAB-458/658 Rehabilitation Support System Networking	2 Exam, papers, reports 2.0 grade point average
20. Explain various understandings of the meaning of aging as portrayed in literature.	LIT-450 Aging in Literature	3 Exam, papers, reports 2.0 grade point average
21. Identify architectural barriers confronted by the disabled traveler.	HT-360/560 Hospitality and the Handicapped Traveler	1 Exam, papers, reports 2.0 grade point average
22. Understand the range of technological options available to assist frail and/or disabled elderly.	REHAB-360/560 Assistive Technology	2 Exam, papers, reports 2.0 grade point average
23. Identify and describe absorption and metabolism of medications in the elderly.	BIO-358 Introduction to Pharmacology	2 Exam, papers, reports 2.0 grade point average

International Studies

As the world moves toward the 21st century, people in all countries and cultures are increasingly interacting with each other. Many UW-Stout graduates find work in multinational businesses and international tourism. Others go into the Peace Corps or other types of international volunteer work. Many more use their leisure time for travel or study abroad. Even those who never venture abroad find their professional, civic and personal lives impacted by the expansion of international relationships.

The International Studies specialization at UW-Stout is flexibly designed to offer students an opportunity to better understand other cultures and international relationships, and to compete more successfully in the workplace. The specialization requires all students to complete six core courses or their equivalents, then select an option that best meets their interests and needs.

All students in the specialization are strongly encouraged to plan work or study experience abroad.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1.0 Develop understanding of international relations. 1.1 Develop understanding of concepts used to analyze international relations. 1.2 Recognize participants and patterns of international relationships. 1.3 Identify and analyze global problems arising from international relations.	<i>Complete 15-18 credits as required below.</i> POLS-340 International Relations <i>or equivalent course work abroad.</i> 3	Exams, papers and reports – 2.0 grade point average.
2.0 Develop understanding of cultural variation and analysis. 2.1 Develop understanding of concepts used to analyze cultural variation. 2.2 Recognize and begin to understand the complexity of cultural variation that exists in the world. 2.3 Develop a cross-cultural approach to analyzing international problems.	<i>Select 2-3 credits from the following:</i> HDFL-335 Seminar-The Culturally Distinct Child and Family 2 ANTH-220 Cultural Anthropology 3 EDUC-336 Multiculturalism: Issues and Perspectives 2 <i>or equivalent course work abroad</i>	Exams, papers and reports – 2.0 grade point average.
3.0 Develop understanding of the geography and peoples of the world. 3.1 Develop understanding of geographical concepts. 3.2 Recognize components of the physical setting in which cultures exist and international relations occur. 3.3 Recognize and analyze the relationships between the physical world, on the one hand, and cultural variation and international relations on the other.	GEOG-104 World Geography <i>or equivalent course work abroad.</i> 3	Exams, papers and reports – 2.0 grade point average.
4.0 Develop introductory knowledge of a second language.	<i>Equivalent of two semesters of college-level language study in one language – 8 cr.</i>	Exams, papers and reports averaging a grade of 2.0 or certification of equivalent level of proficiency by the language faculty.
5.0 Develop introductory knowledge of the history, culture and/or social institutions of a country or region other than one's own.	<i>One 2-3 credit area studies course. Students are encouraged to take this course work abroad. Students not going abroad should select one of the following courses:</i> CAS-250 Soviet Seminar Tour 2 CAS-X99 Independent Study 1-3 HIST-320 History of Russia 3 HIST-360 Asian History 3 HIST-380 Latin American History 3 PHIL-215 Eastern Philosophy 3	Exams, papers and reports – 2.0 grade point average.
6.0 Integrate knowledge with experience in another country or culture. 6.1 Study or work in another culture. 6.2 Appreciate diversity of cultural values. 6.3 Integrate intercultural experiences with other knowledge about international relations.	<i>Select one of the following courses/experiences:</i> HDFL-336 Experience: The Culturally Distinct Child and Family 1 CAS-X99 Independent Study 1-3 EDUC-376 Field Experience—Cross Cultural Experience 1 XXX-XXX <i>Enrollment in international exchange program, or for credit in a study abroad program for a semester or summer term. Completion of exchange or study abroad program would fulfill this objective.</i>	Exams, papers and reports – 2.0 grade point average.

Specialized Learning Objectives	Learning Activity	Evaluation
Option A: International Business		
A1.0 Develop understanding of international business practices.	Complete 9 credits or equivalent courses abroad. BUINB-260 Introduction to International Business 3	Exams, papers and reports – 2.0 grade point average.
A2.0 Develop understanding of international trade, development, marketing, finance, business law, management and/or transportation.	Select 6 credits from the following: BUMGT-346 Seminar 1-3 BUINB-538 International Logistics 3 BUINB-485 International Marketing 3 BUINB-488 International Business Practicum 3 ECON-425 Economic Development 3 ECON-480 International Trade 3 International Internship, co-op, field experience or independent study abroad 1-3	
Option B: International Tourism		
B1.0 Identify international components of the tourism industry.	Select 7-9 credits or equivalent courses abroad: HT-140 Introduction to Tourism 2 HT-440 Sociocultural System of Tourism 3 HT-341 Geography of Tourism 3 HT-481 Special Problems in Habitational Resources 2 International Internship, co-op, field experience or independent study abroad 1-3	Exams, papers and reports – 2.0 grade point average.
B1.1 Recognize the economic role of tourism in a global economy.		
B1.2 Recognize the role of government in planning/development of tourism.		
B1.3 Analyze current issues related to international tourism.		
B1.4 Analyze/become familiar with hospitality and tourism publications.		
B2.0 Assess quality and quantity of selected tourism resources throughout the world.		
B2.1 Analyze spatial patterns of connection, circulation, interaction, transportation and communication associated with the geography of tourism.		
B2.2 Analyze international tourism's locational trends.		
B2.3 Develop world map reading skills related to tourism.		
B3.0 Analyze current tourism topics.		
B4.0 Experience working in tourism industry abroad.		
Option C: Language Studies		
Includes the 8 credits from the core requirement		
C1.0 Develop ability to communicate in a second language.	Equivalent of two years of college-level study of one foreign language. Internship, co-op, field experience or other evidence of language use with native speakers is strongly encouraged.	Exams, papers and reports – 2.0 grade point average; or certification of equivalent level of proficiency by the language department.
Option D: Area Studies		
D1.0 Increase understanding of the history, culture and social institutions of a country or region other than one's own.	Select 8-9 credits from the following: Internship, co-op, field experience or independent study abroad 1-3 (Students are encouraged to take area studies abroad and/or select appropriate courses from list in 5.0 of core objectives.)	Exams, papers and reports – 2.0 grade point average.
Option E: Comparative Education		
E1.0 Develop an understanding of the sociopolitical context of education in other countries.	Select 6 credits or equivalent courses abroad. Student teaching, internship, co-op, field experience or independent study abroad 1-3	Exams, papers and reports – 2.0 grade point average.
E2.0 Develop an understanding of teaching practice appropriate to other countries.		
Option F: Apparel Design/Manufacturing – Retailing		
F1.0 Increase understanding of international economic trends influencing textiles, clothing and related areas.	Complete 8-9 credits or equivalent courses abroad: BURTL-319 International Economic Trends in Textiles and Clothing 3	Exams, papers and reports – 2.0 grade point average.
F2.0 Develop understanding of international centers serving the fashion, clothing, textiles and related arts area.	Select 5-6 credits from the following: APRL-410 History of Costume – Ancient to European 3 APRL-411 History of Fashion – 19th Century to Present 3 BURTL-417 Social/Psychological Aspects of Clothing 3	
F3.0 Increase understanding of international historical influences on present day fashion and clothing.	and/or select up to 3 credits from the following: BURTL-477 Study Abroad – American Fashion College 16 APRL-405 International Study Tour to the Fashion Industry 1-6 International internship, co-op, field experience or independent study abroad 1-3	
Option G: International Apparel Manufacturing		
G1.0 Increase understanding of international economic trends influencing textiles, clothing and apparel manufacturing.	Complete 10-12 credits from the following courses or equivalent courses abroad:	Exams, papers and reports – 2.0 grade point average
G2.0 Analyze sourcing strategies for apparel products and manufacturing.	REQUIRED BUINB-260 Introduction to International Business 3 BURTL-319 International Economic Trends in Textiles and Clothing 3 BURTL-471 International Textile Apparel Sourcing 3	
G3.0 Develop understanding of international business practices through formal course work and/or field experience.	Select one of the following courses: BUINB-485 International Marketing 3 APRL-405 International Study Tour to the Fashion Industry 1-6 ECON-680 International Trade 3 International internship, co-op or field experience 1-3	

Professional Writing

The Professional Writing specialization, unlike other programs at UW-Stout, is creation-oriented not production-oriented.

The specialization addresses an area of critical importance—clearly communicating information. The program is intended for those who wish to gain professional writing skills to help them find employment, and those who wish to improve their writing skills to gain promotions

or explore new career directions. Graduates of this program will be able to clarify technical concepts for a wide range of audiences, especially non-technical ones.

The specialization will integrate various elements of degree programs—writing, public relations, design, graphic arts and others—in one efficient package.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Interact with clients in order to produce their documents.	<i>Follow a sequence of activities, under supervision, to produce a document, starting with an initial interview and progressing to a final document.</i> ENGL-210 Journalism Practicum 1 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-437 Technical Writing Practicum* 1-3 PSYC-379 Public Relations* 2 PSYC-479 Advanced Public Relations 2	1. Review of completed documents by teacher. 2. Acceptance of document by client. 3. Client's evaluation of writer as having adequately performed at all stages in the sequence—use questionnaire.
2. Design documents according to client specifications.	<i>Under supervision of a teacher, learn basic principles of document design. Under supervision of a teacher, determine client's design needs. Produce document.</i> ENGL-210 Journalism Practicum 1 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-437 Technical Writing Practicum* 1-3 PSYC-379 Public Relations* 2 PSYC-479 Advanced Public Relations 2	1. Review of completed design by teacher. 2. Acceptance of design by client.
3. Write and produce a final document by following a logical production procedure.	<i>Structure sequence of activities that teach students the stages of interacting with a printer to produce a final version of a document.</i> GCM-141 Graphic Communications and Electronic Publishing 3 GCM-345 Publications Production 3 DES-210 Letter Form Design 3 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-437 Technical Writing Practicum* 1-3	1. Evaluation of writing by teacher—oral, exercises. 2. Acceptance of text by client. 3. Presentation of final document by writer. 4. Teacher's evaluation of adequate performance at all stages in the sequence—observations.
4. Adapt, direct and produce information for a particular audience.	<i>Structured sequence of activities which train students in concepts of audience adaptation and develop flexibility in adapting to audience.</i> ENGL-210 Journalism Practicum 1 ENGL-320 Business Writing 3 ENGL-246 Informational Writing 3 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-325 Copy Editing and Preparation* 2 ENGL-415 Technical Writing 3 ENGL-437 Technical Writing Practicum* 1-3	1. Teacher evaluation that student has conceptual knowledge of adapting for an audience—tests, exercises. 2. Teacher evaluation that student has flexible ability in adapting for an audience—exercises.
5. Organize and present written material in a clear, concise manner.	<i>Structured sequence of activities which train students in organizing for a particular audience situation.</i> ENGL-210 Journalism Practicum 1 ENGL-320 Business Writing 3 ENGL-246 Informational Writing 3 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-325 Copy Editing and Preparation* 2 ENGL-415 Technical Writing 3 ENGL-437 Technical Writing Practicum* 1-3	1. Teacher evaluation that student has acceptable conceptual knowledge of organization and concise presentation—exercises. 2. Teacher evaluation that student has flexibility in presenting different organizations—exercises. 3. Acceptance of text by client.
6. Produce information according to business and industry standards of style.	<i>Structured sequence of activities which train students in style concepts and flexibility.</i> ENGL-207 Writing for the Media 3 ENGL-320 Business Writing 3 ENGL-246 Informational Writing 3 ENGL-399 Independent Study or ENGL-X49 Cooperative Education Program in Arts and Sciences 2-3 ENGL-415 Technical Writing 3	1. Teacher evaluation that student has acceptable level of style conceptual knowledge—tests, exercises. 2. Teacher evaluation that student has acceptable style flexibility—exercises. 3. Acceptance of text by client.

* Required courses. A student may petition the specialization program director for an exception to the required courses based upon prior experience and may choose another course in the block. This specialization requires a minimum of 12 credits (10 credits of required courses and 2 credits of electives).

Public Relations/Public Information

This specialization is a suitable support program for undergraduate students enrolled in any program the university offers. Virtually every area of professional preparation can benefit from the study of public relations/public information. Institutions and organizations are increasingly aware of the need for sound management practices when dealing with publics and the value of those practices to society.

If UW-Stout students are to achieve their professional goals, they must be competent in developing relationships with many different organizations and understanding the attitudes and values represented by those organizations. Students completing this specialization would be better able to utilize professional communication skills, play an

integrative role in organizational management, assist in the definition and implementation of policy, and represent the organization's rights and responsibilities to the various publics.

Students should apply for the specialization one year before completing the requirements for it. To be admitted to the specialization, a student must have completed 12 credits in the behavioral and/or social sciences and six credits in business or business-related course work.

The specialization will be awarded to the student once all course work required for it has been completed and a minimum 3.0 grade point average has been earned in those courses.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Anticipate and identify public opinion.	Complete the following courses: PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate recognition and comprehension of public opinion through minimum 2.75 grade point average on course expectation.
2. Interpret and communicate public opinions' effect on the plans and operations of an organization.	Complete the following courses: PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate the ability to assess the effect of public opinion on organizations through minimum 2.75 grade point average on course expectation.
3. Recognize socially responsible behavior on the part of organizations.	Complete the following courses: PHIL-275 Personal and Professional Ethics 3 PSYC-377 Consumer Psychology 3 PSYC-379 Public Relations 2	Demonstrate ability to identify organizational behavior that is socially responsible through minimum 2.75 grade point average on course expectation.
4. Anticipate public reaction to organization's policy decisions and courses of action.	Complete the following courses: SPCOM-200 Persuasive Speaking 2 PSYC-479 Advanced Public Relations 2	Demonstrate awareness of public reaction to organizational activity through minimum 2.75 grade point average on course expectation.
5. Enhance the organizational image through advice to management.	Complete the following courses: SPCOM-200 Persuasive Speaking 2 PSYC-479 Advanced Public Relations 2	Demonstrate talent to provide sound advice regarding organizational image through minimum 2.75 grade point average on course expectation.
6. Design and conduct organizational audits (<i>using approved public relations research techniques</i>).	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to develop tools for assessment and investigation of external and internal publics.
7. Compile and analyze data.	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Demonstrate comprehensive analysis through reports and presentations.
8. Set objectives, plan and budget resources for public relations/public information activities.	Complete the following courses: PSYC-479 Advanced Public Relations 2 PSYC-493 Field Practicum in Public Relations Specialization 1-3	Provide evidence of ability to set program goals and objectives and develop program budget.
9. Develop program strategies.	Complete the following courses: TCS-103 Communication and Information Technology 3 ENGL-246 Informational Writing 3 PSYC-479 Advanced Public Relations 2	Demonstrate ability to select appropriate audience, messages and media to carry out program goals and objectives through reports from field supervisors.
10. Implement campaigns to influence organizational goals.	Complete the following courses: TCS-103 Communication and Information Technology 3 ENGL-246 Informational Writing 3 PSYC-479 Advanced Public Relations 2	Demonstrate ability to accomplish campaigns/programs through reports from field supervisors.
11. Evaluate public relations/public information programs.	Work on problem-based projects from the following: PSYC-379 Public Relations 2 PSYC-479 Advanced Public Relations 2 PSYC-XXX Practicum Experience 1-3	Provide evidence of campaign/program success or failure through examination and evaluation of actual outcomes.

Spanish

Spanish is a practical skill as well as an academic and aesthetic domain. The Spanish speaking population of the United States needs to be served through communication about practical needs as well as through cultural appreciation.

The Specialization in Spanish consists of the four communication skills basic to learning another language: listening, speaking, reading and writing, as well as experience in and study of cross-cultural issues, appreciation of a variety of fine arts and literary genres, and practical knowledge of the Spanish language applied to work and other life situations.

The program is suitable for non-traditional students because it builds upon knowledge they may have acquired through personal experience or in the classroom. The recommended activities for this specialization include courses which are ideal for "brushing up," and are designed so that material will be varied when students take the courses more than once. The specialization can be completed in one year, not considering the field experience, if the student has sufficient background in Spanish, so it is a good credential to combine with a graduate program or to complement a diploma from another university.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
1. Use general vocabulary to speak Spanish about topics of common or personal interest.	Complete the following courses: SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II SPAN-104 Elementary Spanish II SPAN-201 Intermediate Spanish I SPAN-202 Spanish II SPAN-227 Spanish Conversation and Composition SPAN-229 Hispanic Literature in America or other experience	Grade of B or better in a Third Year Spanish Course, or credits for speaking on the Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of spoken Spanish.
2. Understand native speakers talking at average speed.	SPAN-227 Spanish Conversation and Composition, or study abroad	Grade of B or better in Spanish 227, or credits for listening on Brigham Young exam, ACTFL Intermediate Low rating, or other approved test of listening comprehension.
3. Write paragraphs to express a personal point of view.	Complete the following courses: SPAN-103 Elementary Spanish or SPAN-121 and -122 Practical Spanish I and II SPAN-104 Elementary Spanish II SPAN-201 Intermediate Spanish I SPAN-202 Spanish II SPAN-227 Spanish Conversation and Composition SPAN-229 Hispanic Literature in America or other experience	Grade of B, or better in SPAN-227 Spanish Conversation and Composition, or in SPAN-229 Hispanic Literature in America, or credits for writing paragraphs on Brigham Young exam or other approved writing test.
4. Read authentic journalistic prose or other reports, understanding the general meaning, coping well with grammatical nuances and complexities, and inferring meanings, for most unfamiliar words.	SPAN-201 Intermediate Spanish I and SPAN-227 Spanish Conversation and Composition, or extensive and careful reading of magazines and newspapers.	Grade of B or better in Spanish 227, other Third Year course based on journalistic prose, or departmental examination.
5.1 Recognize and interpret cultural differences in written material and conversational situations.	SPAN-229 Hispanic Literature in America or other Spanish literature course and cross-cultural readings recommended by department	Grade of B or better in Spanish 229 or departmental examination based on cross-cultural readings and applied to conversational dialogues and literary passages.
6. Interact with ease in professional, social and tourist situations where Spanish is the language of communication.	A minimum of two weeks living experience among native speakers of Spanish.	Participate in a videotaped conversation or interview, in Spanish, fifteen minutes or more, with the collaboration of a native speaker or other appropriate individual.
7. Appreciate the usefulness of Spanish in real life situations.	Personally use Spanish in practical situations, interview about ten people who use Spanish in travel or social or work situations.	Ten page report, in English or Spanish, on how Spanish may be used in various professional or life situations.
8. Be able to use Spanish in the context of one's chosen profession.	Locate books and other documents in Spanish related to one's major or future work situation.	Portfolio report — two hundred vocabulary words of a highly specialized nature, with explanations or illustrations as necessary, to be approved by faculty.
9. Read and write personal correspondence in Spanish.	Formal Spanish courses, writing letters to friends and/or family members.	Completion of SPAN-227 Spanish Conversation and Composition with a grade of B or better, or presentation of portfolio of ten letters which the candidate has written to real, or imaginary persons.

Intended Outcome	Learning Activity	Evaluation
10. Recognize the importance of aesthetic values in Hispanic life.	SPAN-229 Hispanic Literature in America or other Hispanic culture course, or research on ten Hispanic composers, artists, and/or authors, in consultation with the faculty.	Grade of B or better in Spanish 229 or other advanced Hispanic culture course, or write an essay based on the results of research, emphasizing aesthetic values and the importance of art in the community.
11. Be familiar with several aesthetic characteristics used in the music, art and literature of Hispanic cultures.	SPAN-201 Intermediate Spanish I and SPAN-229 Hispanic Literature in America, or, listen to Hispanic music, become familiar with examples of Hispanic art and read Hispanic authors, under consultation with faculty.	Completion, with a grade of B or better, of Spanish 201 and 229, or six credits in other courses based primarily on cultural material or presentation, in English or Spanish, of one example each from art, music, and literature, emphasizing unique Hispanic characteristics.
12. Be familiar with some of the most important current, and historical events and situations in Spanish-speaking countries.	SPAN-201 Intermediate, Spanish I, or research from a collection of current and historical readings provided by faculty.	Grade of B or better in Spanish 201, or departmental exam based on recommended reading material.
13. Develop strategies for maintaining and improving language proficiency outside the academic setting.	Experience at least three media appropriate to language maintenance, such as Spanish-language movies or newspapers, audio review tapes or computer programs.	Write a reaction paper on your experience with three different media sources, in consultation with faculty.

Training and Human Resource Development

Education is not the sole province of schools. Programs of instruction are conducted by many businesses, industries, in the military, and by other groups and organizations. Planning and providing this instruction is the province of professionals usually identified as "trainers." In our technological society, training programs have become increasingly complex and demands on trainers have increased. Greater expertise on their part is required. This all-university specialization addresses needs for

preservice and in-service education for trainers.

This program is intended for students who have expertise in areas such as engineering, technology, education, business, government, military and labor, and who desire to become involved in development and implementation of training programs. Contact the Office of the Dean, College of Technology, Engineering and Management for further information.

Requirements for the Specialization

Note: Courses numbered 700 and greater are open to graduate students only.

Intended Outcome	Learning Activity	Evaluation
1. Introduction to concepts of training and human resource development.	TRHRD-360/560 Training Systems in Business and Industry <i>Select one of the following:</i> INMGT-400/600 Organizational Leadership or PSYC-382/582 Human Resource Management	3 Successful completion of courses at left (6 credits).
2. Design and develop training activities.	MEDIA-360/560 Introduction to Media in Education and Training <i>Complete a course from the appropriate school in curriculum development or course construction (2-3 credits) such as:</i> EDUC-312/512 Introduction to Curriculum, Methods and Assessment MEBE-401 Marketing Education Curriculum VTAE-438/638 Course Construction for Vocational Educators	2 Successful completion of courses at left (minimum 4 credits).
3. Implement and facilitate training activities.	<i>Select one of the following:</i> EDUC-312/512 Introduction to Curriculum, Methods and Assessment MEBE-301 Marketing Education Methods TRHRD-370/570 Training Methods in Business and Industry VTAE-405/605 Methods of Teaching Vocational Education	2 Successful completion of a course at left (minimum 2 credits).
4. Evaluate the effectiveness of training activities.	VTAE-440/640 Instructional Evaluation in Vocational Education	2 Successful completion of the course at left (2 credits).
5. Apply concepts of training in the professional area.	TRHRD-XXX Co-op/Internship in Training	1-8 Successful completion of the contractual agreement of the internship as evaluated by the business, industry, government or military supervisor, and the UW-Stout supervisor. Completion of a field report is required.

Vocational Evaluation/Rehabilitation Technology

The impact of technology has changed assessment and service delivery in the field of rehabilitation. A philosophical shift to a more empowering stance with persons with disabilities has occurred as a result of the evaluation of their skills and abilities and the enhancement of those skills through assistive technology. This specialization educates and

trains vocational rehabilitation professionals and students in skills to meet the needs of people with disabilities, and to provide the services that are being demanded by employers, as well as persons with disabilities for use in the labor market and in accordance with the Americans with Disabilities Act.

Requirements for the Specialization

Intended Outcome	Learning Activity	Evaluation
Development of tool modification and accommodation: demonstrate familiarity with and use of testing accommodations or modifications to facilitate the vocational exploration of persons with disabilities through the modification of tests, work samples, job sites and training materials, as appropriate.	"The Use of Assistive Technology" workshop, resulting in a report detailing the use and modification of testing strategies or REHAB-360/560 Assistive Technology 2	Faculty review and approval of report on use and modification of evaluation tools or Grade of "C" or better
Communication of rehabilitation plan objectives and recommendations: demonstrate the ability to incorporate the potential of assistive technology to enhance performance potential in the vocational choices of persons with disabilities.	"The Use of Assistive Technology" workshop, resulting in reports that include recommendations for the use of assistive technology or REHAB-360/560 Assistive Technology 2	Faculty review and approval of report on use and modification of evaluation tools or Grade of "C" or better
Vocational rehabilitation process and philosophy: outline and describe philosophical movements associated with vocational rehabilitation in the United States, describe the role of vocational rehabilitation/assessment in a diverse cultural environment, and describe the need that persons with disabilities have to be a part of society, focusing on strengths and assets that people bring with them to any situation.	Research paper describing process and philosophy or Demonstrated work experience of three or more years and professional development credentials or REHAB-101 Introduction to Rehabilitation 3	Faculty review and approval of research paper or work experience and professional credentials or Grade of "C" or better
Occupational Information: find and use various sources of national, state and local occupational information; link rehabilitation recommendations to the local labor market of the person being served.	Demonstrate work experience as a job developer or placement specialist of two or more years or "Job Development and Placement and Occupational Information" workshop resulting in appropriate work recommendations in a written report or REHAB-310 Vocational Evaluation or REHAB-410 Job Placement 3	Faculty review of work experience or faculty review and approval of report recommendations or Grade of "C" or better
Functional aspects of disability: develop knowledge of the functional characteristics of disability and understand the impact of evaluating the skill and abilities of a person with a disability.	Research paper on effect of disabling condition(s) in vocational rehabilitation or Test out with faculty-developed standardized test or REHAB-230 Psychosocial Aspects of Disability 3	Faculty review and approval of research paper or 80 percent or better on the standardized test or Grade of "C" or better
Individualized vocational rehabilitation/evaluation planning: identify and delineate the individual needs of a person with a disability; state those needs in a plan for testing skills and abilities in relation to the accomplishment of a task or goal.	"Rehabilitation Planning" workshop resulting in written vocational rehabilitation plan or Work experience of two or more years, one letter of reference from a supervisor, three letters of reference from professional referral sources, and five letters of reference from consumers of services or REHAB-310 Vocational Evaluation 3	Faculty review and approval of written rehabilitation plan of three separate case studies provided during workshop or Faculty review and approval of work experience and letters of reference or Grade of "C" or better
Vocational interviewing: demonstrate the development of rapport, provision of agency and assessment information, initial identification of client strengths and limitations through the vocational interview; and create an understanding of the process of vocational rehabilitation through the vocational interview.	"Vocational Interviewing and Facilitating Career Decision Making with Clients" workshop resulting in the videotaping of a vocational interview or Demonstrate evidence of past work experience as a vocational counselor for two or more years or Complete college level course work in vocational interviewing	Faculty review and approval of videotaped vocational interview or Faculty review and approval of work experience or Faculty review and approval of college level course work
Vocational report development and communication: interpret, analyze, and synthesize participant data in a coherent and concise manner that addresses needs, strengths, and assets of the participant and develops pertinent recommendations through a report shared orally and in writing with the participant/client and referral source/rehabilitation counselor.	"Vocational Rehabilitation Report Development and Communication" workshop or Four written reports addressing needs of four case studies presented during the workshop or REHAB-310 Vocational Evaluation 3	Faculty review and approval of the written report options and letters of reference or Grade of "C" or better

Intended Outcome	Learning Activity	Evaluation
Standardized testing: become familiar with the procedures for administering and interpreting standardized tests and application of tests to persons with disabilities, understand the impact of the disabling condition and the use of the most appropriate test, and develop a report explaining the impact of testing and using results with a vocational rehabilitation report.	<p>Previous college course work in the use of psychometric testing and principles of validity and reliability or "Standardized Testing" workshop and paper describing use of standardized tests with persons with disabilities or Past work experience of two years or more where responsibilities include administering and interpreting standardized tests with a supervisor's letter and at least one referral source/rehabilitation counselor or REHAB-420/620 Psychological Testing – People with Exceptional Need 3</p>	<p>Faculty review and approval of previous course work or Faculty review and approval of workshop paper or Faculty review and approval or work experience and letters of recommendation or Grade of "C" or better</p>
Job and Training Analysis: perform a job analysis and develop a training analysis on a given job and do a written report; use the job analysis to determine the most appropriate evaluation tools to use with a person with a disability to measure performance ability; determine appropriate training or education to prepare for the job.	<p>Read <i>A Guide to Job Analysis</i> or <i>The Revised Handbook for Analyzing Jobs</i>, participate in an online discussion of the materials and procedures of job analysis, select a job in the community that reflects occupational choices of agency participants, prepare a job analysis report, select and describe evaluation tools most appropriate for someone interested in the occupation or REHAB-410 Job Placement 3</p>	<p>Faculty review and approval of the job and training analysis report and online discussion or Grade of "C" or better</p>
Functional Skills: use appropriate tools and strategies to evaluate the functional daily living skills of an individual with a disability, select appropriate method to determine level of functional skill, develop and use situational assessment to establish an understanding of the individual functional skills of a person with a disability.	<p>"Functional Skills Assessment" workshop and report or Demonstrate evidence of past work experience of two or more years involving vocational evaluation/ functional skills assessment and/or situational assessment with two letters of reference from referral sources or REHAB-470/670 Work Adjustment Services 3</p>	<p>Faculty review and approval of report or Faculty review and approval of work experience and letters of reference or Grade of "C" or better</p>
Assessment of Learning: demonstrate awareness of learning styles and modalities of teaching through use of selected tests, modify test administration to the demands of the learning/teaching situation.	<p>Previous college-level course work in educational psychology, special education, adult or vocational education that address issues of learning and learning styles and use of learning assessments or Paper describing learning styles and assessment of such styles, with assessment tool selection and modification</p>	<p>Faculty review and approval of course work or Faculty review and approval of paper</p>
Work samples and work sample systems: demonstrate appropriate use of work samples and work sample systems as means of assessment within a given occupation, demonstrate appropriate use of work samples and systems with different types of disabling conditions.	<p>"Work Sample and Work Sample Systems" workshop and research paper or REHAB-310 Vocational Evaluation 3</p>	<p>Faculty review and approval of research paper or Grade of "C" or better</p>
Behavioral Observation: observe and note behaviors of individuals during the assessment process as asset or limitation behaviors in relation to the accomplishment of a target goal.	<p>Read appropriate, assigned material and develop a written behavior observation of five clients where observations were critiqued by at least two other professionals, including the referring counselor or Demonstrate evidence of work experience in vocational rehabilitation/evaluation where duties included writing and/or noting behavioral observations, with a letter from a supervisor and two from referral sources attesting to accuracy and usability of the written behavioral observations, including examples of written behavioral observations</p>	<p>Faculty review and approval of observations, critiques and reports or Faculty review and approval of work experience, letters of reference, and examples of written behavioral observations</p>

Course Descriptions



Interpreting Course Descriptions

Course Subject Area Codes

Numbers following the subject areas indicate the former course number prefix.

AEC	Architecture, Engineering and Construction – 182	EDUC	Education – 421	PHYS	Physics – 372
ANTH	Anthropology – 303	ELEC	Electricity/Electronics – 184	PKG	Packaging – 181
APRL	Apparel Design/Manufacturing – 214	ENGL	English – 326	POLS	Political Science – 375
APSCI	Applied Science	FCSE	Family and Consumer Sciences Education – 242	POWER	Power – 185
ART	Art – 304	FN	Food and Nutrition – 229	·PSYC	Psychology – 479
ARTED	Art Education – 305	FREN	French – 328	RC	Risk Control – 140
ARTH	Art History – 304	GCM	Graphic Communications Management – 130	RD	Design, Research and Development – 183
BIO	Biology – 308	GEOG	Geography – 336	REHAB	Vocational Rehabilitation – 459
BUACT	Business Accounting – 160	GER	German – 331	RUS	Russian – 333
BUINB	Business International Business – 160	HDFL	Human Development and Family Living – 212	SCOUN	School Counseling – 413
BULGL	Business Legal – 160	HIST	History – 338	SOC	Sociology – 387
BUMGT	Business Management – 160	HLTH	Health – 466	SOCWK	Social Work – 387
BUMIS	Business Management Information Systems – 160	HMON	Hmong	SPAN	Spanish – 329
BUMKG	Business Marketing – 160	HT	Hospitality and Tourism – 245	SPCOM	Speech Communication – 391
BURTL	Business Retail – 214	INMGT	Industrial Management – 150	SPED	Special Education – 431
CADD	CADD/Drafting – 183	LIT	Literature – 326	SPSY	School Psychology – 489
CAS	College of Arts and Sciences – 300	LOG	Logic – 365	SRVM	Service Management
CHD	College of Human Development – 200	MATH	Mathematics – 355	STAT	Statistics – 354
CHEM	Chemistry – 311 <i>(includes 312 – Industrial Hygiene)</i>	MEBE	Marketing Education/Business Education – 196	TCS	Telecommunication Systems – 130
CHIN	Chinese – 330	MECH	Engineering Mechanics – 183	TECED	Technology Education – 190
COUN	Counseling – 439	MEDIA	Media Technology – 120	TECH	Technology – 195
CS	Computer Science – 354	MFGE	Manufacturing Engineering – 181	THEA	Theatre – 391
CTEM	College of Technology, Engineering and Management – 100	MFGT	Manufacturing Technology – 181	TRANS	Transportation/Energy – 186
DES	Design – 304	MSCS	Math, Statistics, and Computer Science – 354	TRDIS	Transdisciplinary – 500
ECON	Economics – 320	MUSIC	Music – 360	TRHRD	Training and Human Resource Development – 198
		PE	Physical Education and Athletics – 467	VTAE	Vocational, Technical and Adult Education – 199
		PHIL	Philosophy – 365	WS	Women's Studies

Course Level

The three digits of the course codes refer to the course level. The 100 series is primarily for freshmen; 200 – sophomores; 300 – juniors; and 400 – seniors.

LIT-273 American Multicultural Literature 3 cr.

GEHUM LIT ESA Fall, Spring and Summer

American multicultural literature, focusing on Hispanic, African, Asian and Native American writers.

Equivalent to 326-373. P: ENGL-102, ENGL-112 or ENGL-113.

Credits

One credit hour usually represents one hour of class time per week plus two hours of out of class study.

Course Planning Codes

Codes following the descriptions help you as you plan your course schedules.

General Education and Ethnic Studies

GEXXXXXXX = General Education course.

The letters which follow GE indicate the particular general education category the course applies to. See page 24, General Education Requirements, for further clarification if needed.

ESA = Ethnic Studies level A course.

ESB = Ethnic Studies level B course.

ESC = Ethnic Studies level C course.

Terms Offered

The terms indicated — Fall, Spring, Summer and WinTerM — serve only as a general guide and do not guarantee that a course will be offered during a particular semester. Uncoded courses follow no usual pattern.

Other Codes

P = Prerequisites are required as described.

\$ = A special course fee applies.

R = Course is repeatable for credit.

The Course Timetable

The Registration and Records Office publishes the Timetable prior to fall and winter semesters, which lists the courses offered in a particular semester. The most current lists of course offerings in a particular semester are available online at:

<http://www.uwstout.edu/opencourses>

AEC Architecture, Engineering and Construction**AEC-130 Hospitality, Living and Institutional Facility Planning 2 cr.**

Fall, Spring and Summer

Basic architectural drafting and design content, concepts, media, techniques, and methods to record and communicate ideas and solve problems.

Equivalent to 130-180, 182-130.

AEC-131 Architectural Graphics 2-3 cr.

Fall and Spring Semesters

Architectural drafting with emphasis on drawing theory and delineation. Drawing media and equipment are utilized in solving problems relating to construction that are normally solved graphically. If taken for three credits, computer aided drafting will be included in the course work.

Equivalent to 130-120, 182-131.

AEC-170 Light Construction Methods 2 cr.

Fall and Spring Semesters

Residential and small commercial structure construction: terminology, materials, tools and equipment. Equivalent to 170-270, 182-170.

AEC-172 Construction Technology 3 cr.

Fall, Spring and Summer

Technology of constructing buildings, bridges and other structures, including: site preparation, foundation systems, superstructures, enclosures, utilities, finishing methods, and materials. Equivalent to 182-172.

AEC-175 Construction Materials 1 cr.

Fall and Spring Semesters

A study of the origin, composition, basic nature, and use of primary materials of construction (*wood, metal, plastic, brick, tile, rock, stone, cement, and glass*).

Equivalent to 170-275, 182-175.

AEC-190 Orientation To Construction Industry 1 cr.

Spring Semester

An introduction to the field of construction as presented by professionals in the construction industry to broaden student understanding and develop appreciation of the entire scope of construction. Equivalent to 182-190.

AEC-191 The Built Environment 2 cr.

GETECH Fall and Spring Semesters

Construction and its relationship to resources, materials, and the culture in which it takes place. Discussion of significant historical and modern structures. Emphasis on how, why, and by whom structures are built and what can be learned from them.

AEC-233 Architectural Design I 3 cr.

Fall, Spring and Summer

Develop graphic simulation techniques and problem-solving abilities; site planning, space requirements, housing codes, structure, light frame construction, solar and earth integrated designs, mechanical and electrical systems. Equivalent to 130-221, 182-233. P: AEC-130 AEC-131 or CADD-112.

AEC-237 Architectural Technology 3 cr.

Fall and Spring Semesters

Space programming and planning, working drawings for commercial and industrial buildings. Building codes, energy requirements, construction contract documents, structural materials and systems, building materials and systems. Equivalent to 130-424, 182-237. P: CADD-112 or AEC-131.

AEC-270 Heavy Construction Methods and Equipment 3 cr.

Fall and Spring Semesters

Introduction to commercial and industrial building systems: equipment, site preparations, footings, foundations, formwork, concrete, steel, and wood timber techniques.

Equivalent to 170-370, 182-270. P: AEC-170.

AEC-273 Concrete and Masonry Technology 3 cr.

Fall and Spring Semesters

Fundamental principles of cement and concrete (*ingredients, mixing, placement, finishing, curing, properties, and applications*); clay and concrete units (*ingredients, properties, manufacture, placement, and application*).

Equivalent to 170-373, 182-273. P: AEC-170, AEC-175; minimum grade of C.

AEC-335 Architectural Design II 3 cr.

Fall, Spring and Summer

Programming and analysis, design solution, presentation and design development drawings for commercial and/or public buildings; scale, site, codes, energy, acoustics, structure and their relation to form.

Equivalent to 130-325, 182-335.

AEC-357 Site Engineering 3 cr.

Fall, Spring and Summer

Use of surveying instruments, techniques, computations and computer technology used to measure and describe land configurations; construction surveying including contours, grades, cut and fill, and drainage.

Equivalent to 182-357, 130-527. P: AEC-131, MATH-121.

AEC-370 Construction Estimating 1 3 cr.

Fall and Spring Semesters

Estimating and analyzing material, labor, equipment, methods of construction, overhead and profit, and submitting these factors in the form of a bid.

Equivalent to 150-570, 182-570. P: AEC-237.

AEC-375 Construction Practicum 2-4 cr.

Summer Session

Technical information, construction problems and actual development of light residential structure. Equivalent to 170-575, 182-575.

AEC-395 Seminar 1-2 cr.

Summer Session

(Title will reflect specific construction content). Current and projected methods, concepts, technologies and innovations in construction.

Equivalent to 182-595. R

AEC-438 Contract Requirements and Specifications 3 cr.

Fall and Spring Semesters

Principles of contract requirements and construction specification organization. Development of basic skills of project manual preparation. Demonstration of role of specifications within the construction process and relationship to other construction contract documents.

Equivalent to 130-526, 182-538. P: ENGL-320 or ENGL-415.

AEC-439 Land Use Planning 3 cr.

Fall and Spring Semesters

Area planning; problems in design of building complexes; exterior space, land use, relationships between buildings and supporting facilities; contemporary regional and city planning and its historical roots.

Equivalent to 130-629, 182-639.

AEC-452 Environmental Systems – HVAC 3 cr.

Spring Semester

Principles of heating, ventilating and air conditioning; analysis and selection of systems and equipment.

Equivalent to 170-372, 182-552. P: PHYS-222, PHYS-241 or PHYS-281.

AEC-453 Environmental Systems – Plumbing and Electrical 3 cr.

Spring Semester

Plumbing, electrical and illumination systems for light and heavy construction.

Equivalent to 170-570, 182-553, 170-570. P: PHYS-232, PHYS-242 or PHYS-282.

AEC-458 Structural Systems – Wood and Steel 3 cr.

Fall Semester

Analysis, selection, and delineation of wood and steel structural components and systems in buildings. Equivalent to 130-528, 182-558. P: PHYS-321.

AEC-459 Structural Systems-Concrete and Masonry 3 cr.

Fall and Spring Semesters

Analysis, selection, and delineation of concrete and masonry structural components and systems in buildings. Equivalent to 182-559. P: AEC-458.

AEC-470 Construction Estimating II 2 cr.

Fall and Spring Semesters

Computer-based estimating systems for construction. Take-off, pricing, bid preparation, resource and cost studies, and database operations.

Equivalent to 182-571. P: AEC-370; minimum grade of C.

AEC-471 Project Scheduling and Cost Control 3 cr.

Fall and Spring Semesters

Total concept of construction industry: contracting, financing, bidding, planning, organizing, coordinating, and controlling functions and techniques.

Equivalent to 150-670, 182-670. P: AEC-370; minimum grade of C.

AEC-472 Management of Construction 3 cr.

Fall and Spring Semesters

Organizing, managing and operating the contracting firm.

Equivalent to 182-572. P: BUMGT-304.

AEC-495 Seminar 2 cr.

Summer Session

(Title will reflect specific construction content). Current and projected methods, concepts, technologies and innovations in construction. Equivalent to 182-495.

ANTH Anthropology**ANTH-220 Cultural Anthropology 3 cr.**

GESBSCI ANTH ESB Fall, Spring and Summer

Introduction to concepts and methods; variability of culture; outline of cultural elements; processes of cultural change. Equivalent to 303-220, 303-420.

ANTH-250 The Human Past 3 cr.

GESBSCI ANTH Fall and Spring Semesters

Biological anthropology: humans as primates, origins of humans, stages of human evolution, and relationship of biology and culture.

Equivalent to 303-250.

ANTH-300 Native Americans 3 cr.

GESBSCI ANTH ESA Fall and Spring Semesters

North American Indians: native American cultures prior to European contact, Indian/European historical relationships and contemporary reservation/urban Indian life and issues. Equivalent to 303-300.

ANTH-350 Low Birker Archeology Field School 4 cr.

Summer Session

Archeology field work for students enrolled in the Low Birker field school in Cumbria, England. Method and theory of archeological excavation; public archeology; relationships between archeological excavation and wider field of archeology, history, and society. Equivalent to ANTH-396B, 303-396B.

ANTH-420 The Anthropological Study of Family Systems 3 cr.

Spring Semester

Anthropological, cross-cultural view of family systems, with attention to their organization, functions, dynamics and articulation with other institutions.

Equivalent to 303-610.

ANTH-430 Ojibwe Lifeways 4 cr.

ESA Summer Session

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. Equivalent to 303-630. \$

APRL Apparel Design/Manufacturing**APRL-101 Introduction to Apparel Design/ Manufacturing 1 cr.**

Fall Semester

Apparel industry operations, trends, and careers.

Equivalent to 214-101, 214-120.

APRL-140 Textiles 3 cr.

Fall and Spring Semesters

Selection, use and care of clothing and household fabrics: analysis of their components. Equivalent to APRL-145, 214-145, 214-196A, 214-140.

APRL-145 Interior Decorating/Design Textiles 3 cr.

Fall and Spring Semesters

Fibers and fabrics used in design/decorating planning of residential and commercial settings. Equivalent to APRL-140, 214-145, 214-196A, 214-140.

APRL-166 Apparel Construction 3 cr.

Fall and Spring Semesters

Construction theory and principles of fitting applied to garment construction. Recommended: 214-140. Equivalent to 214-266, 214-166.

APRL-174 Apparel Production 3 cr.

Fall and Spring Semesters

Experience industrial sewing equipment and machinery for a variety of fabrics. Sequence sewn manufacturing operations. Proficiency in apparel constructoin Equivalent to 214-174, 214-374.

APRL-180 Pattern Development 3 cr.

Fall and Spring Semesters

Develop patterns for garments by flat patterning, drafting, and draping methods. constructed. Proficiency in apparel construction.

Equivalent to 214-180, 214-280.

APRL-202 Quality Analysis of Sewn Products 3 cr.

Fall and Spring Semesters

Factors that influence quality levels in manufactured apparel and other sewn products. Equivalent to 214-202. P: APRL-140.

APRL-274 Apparel Manufacturing 3 cr.

Fall Semester

Processes/functional areas in a sewn product enterprise.

Equivalent to 214-274.

APRL-275 Apparel Grading/Marker Making 3 cr.

Spring Semester

Size grade apparel patterns for various figure types. Make markers and plan cutting of fabric. Equivalent to 214-375, 214-275.

APRL-285 Apparel Line Development 3 cr.

Spring Semester

Develop and present apparel lines for specific markets.

Equivalent to 214-285, 214-285. P: BURTL-112, BUMKG-330.

APRL-345 Textiles For Interiors 2 cr.

Spring Semester

Raw materials, fabric structures, specifications, and legislation related to quality, performance, and maintenance of textiles for commercial and household uses. Equivalent to 214-545. P: APRL-140.

APRL-350 Textile Evaluation 3 cr.

Fall Semester

Problems in fiber identification, fabric performance and care; chemical and microscopic testing procedures; methods for gathering and interpreting data; individual problems. Equivalent to 214-550. P: APRL-140.

APRL-355 Special Topics in Apparel Design and Manufacturing 3 cr.

Computer use in managing textile and apparel designs. Junior level or higher.

APRL-355 Special Topics in Apparel Design/Manufacturing 1-3 cr.

Special topics in clothing and textiles. Repeatable for different topics. Junior level or higher. Equivalent to 214-555. R

APRL-367 Engineered Tailoring 3 cr.

Fall Semester

Industrial production methods applied to construction of tailored garments. Equivalent to 214-568. P: APRL-166.

APRL-368 Experimental Clothing 3 cr.

Spring Semester

Application of problem-solving techniques in designing and constructing garments using client approach.

Equivalent to 214-368. P: BURTL-112, APRL-140.

APRL-381 Functional Clothing Design 3 cr.

Fall Semester

Application of physical science theory to problems in clothing design: impact protection and thermal balance of the human body, structural properties of materials, and apparel forms.

Equivalent to 214-581. P: APRL-180.

APRL-382 Advanced Pattern Development 3 cr.

Fall and Spring Semesters

Develop advanced patterns for garments by draping fabric and using a computer-aided design system.

Equivalent to 214-382. P: APRL-180.

APRL-390 Practicum in Textile Design 3 cr.

Use of textile design techniques as means of artistic expression: stitchery, weaving, knotting, applique and hooking; emphasis on good design and creativity. Equivalent to 214-590. P: ART-101.

APRL-394 Knit Design and Technology 3 cr.

Fall and Spring Semesters

Stitch formation and patterning of warp and filling knits. Influences on aesthetics and performance of knit fabrics. Design and production of knitted fabric and garments on a flat bed knitting machine, including use of CAD techniques.

Equivalent to 214-594. P: APRL-140, APRL-285.

APRL-405 International Study Tour to the Fashion Industry 1-6 cr.

Spring Semester

Tour of international centers of clothing, textiles, and related arts. Study of the cultural patterns. Program includes lectures by consultants and seminars on the various phases of the fashion and fabric industries.

Equivalent to 214-605. R

APRL-410 History of Costume – Ancient To European 3 cr.

Fall Semester

Development of costume throughout the ages: fashion as it reflects past cultures and influences present day costume.

Equivalent to 214-610.

APRL-411 History of Fashion – 19th Century to Present 3 cr.

Spring Semester

A study of the evolution of fashion from the 19th century to the present concentrating on the impact of the fashion designer and changing fashion trends. Equivalent to 214-611.

APRL-419 National Study Tour to the Fashion Industry 1 cr.

Fall and Spring Semesters

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Junior Level or Higher. Equivalent to BURTL-419, 214-639, 214-619, BUINB-260. R

APRL-480 Draping 3 cr.

Fall Semester

Application of draping principles in design and construction of garments; emphasis on creativity. Equivalent to 214-680.

APRL-485 Apparel Design Studio 3 cr.

Spring Semester

Creation, development, and formal presentation of original designs using flat pattern and/or draping techniques. Preparation of professional portfolio to include CAD and other illustrative materials representative of individual expertise. Equivalent to 214-685.

APRL-493 Structural Design and Weaving 2 cr.

Experiences in loom weaving including two and four harness techniques.

Equivalent to 214-693. P: ART-101.

APRL-495 Historic and Contemporary Fabrics 3 cr.

Fall Semester

Analysis of designs and techniques of decorating historic and contemporary fabrics; contribution of decorative fabrics to enrichment of human experience.

Equivalent to 214-695.

ART Art**ART-100 Drawing I 3 cr.**

GEHUM CRPRF Fall and Spring Semesters

Concentration on the development of visual sensitivity through drawing with various media. Equivalent to 304-100.

ART-101 Fundamentals of Design 3 cr.

GEHUM CRPRF Fall and Spring Semesters

Basic two-and three-dimensional design using various media for development of visual sensitivity. Equivalent to 304-101.

ART-102 Introduction to Art and Design 1 cr.

Fall and Spring Semesters

Introduction to various disciplines and activities in art and design. Not appropriate for general education requirement. Equivalent to 304-102.

ART-103 Design 3 cr.

Fall and Spring Semesters

Application of basic design principles using various media for development of visual sensitivity to three-dimensional form. Equivalent to 304-503. P: ART-101.

ART-145 The Practice of Art 2 cr.

Summer Session

Introduction to creative concepts, techniques of presentation, practices in studio art, function of criticism, portfolio ingredients and opportunities in the art world. Studio Art or Art Education majors only. Equivalent to 304-145.

ART-200 Drawing II 1-3 cr.

Fall and Spring Semesters

Continuation of 304-100; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits.

Equivalent to 304-500. P: ART-100. R

ART-209 Painting I 3 cr.

Fall, Spring and Summer

Introduction to character and use of various painting media; work from still life and life with reference to problems of two-dimensional color composition.

Equivalent to 304-509. P: ART-200.

ART-211 Sculpture I 3 cr.

GEHUM CRPRF Fall and Spring Semesters

Introduction to sculptural concepts.

Equivalent to 304-511. P: ART-100 ART-101.

ART-213 Ceramics I 3 cr.

GEHUM CRPRF Fall, Spring and Summer

Basic design and techniques of ceramic production for artist/potter; forming, firing and surface treatment. Equivalent to 304-513.

ART-215 Art Metal I 3 cr.

GEHUM CRPRF Fall, Spring and Summer

Design and construction of jewelry and objects in precious and non-precious materials with relationship to human interaction. Equivalent to 304-515.

ART-217 Printmaking I 3 cr.

Fall, Spring and Summer

Introduction to the concepts and techniques of printmaking.

Equivalent to 304-517. P: ART-101, ART-200.

ART-256 Art Workshop 1-3 cr.

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

Equivalent to DES-256, 304-256.

ART-301 Life Drawing I 3 cr.

Fall and Spring Semesters

Drawing the human figure in action or at rest; problems in figure composition.

Equivalent to 304-501, 304-420. P: ART-200.

ART-318 Clay and Glaze Laboratory 1 cr.

Procedures and processes in testing of clays; formulation of clay bodies and development of clay slips and ceramic glazes for artist/potter.

Equivalent to 304-520. P: ART-413. S

ART-401 Life Drawing II 1-3 cr.

Fall and Spring Semesters

Advanced problems in figure composition and graphic interpretation of the figure. Initial enrollment must be for 3 credits.

Equivalent to 304-502. P: ART-301. R

ART-407 Aesthetics 3 cr.

Fall and Spring Semesters

Examination of the philosophers of contending theories in art.

Equivalent to 304-607. P: ARTH-223, ARTH-224, ARTH-336 or ARTH-337.

ART-409 Painting II 1-3 cr.

Fall, Spring and Summer

Advanced work in oil painting; exploitation of medium for creative and expressive ends. Initial enrollment must be for 3 credits.

Equivalent to 304-510. P: ART-209. R

ART-411 Sculpture II 1-3 cr.

Fall and Spring Semesters

Advanced problems in sculpture; exploitation of media for creative and expressive ends. Initial enrollment must be for 3 credits.

Equivalent to 304-512. P: ART-211. R

ART-413 Ceramics II 1-3 cr.

Fall, Spring and Summer

Use of clay, glazes and kiln for design and production of high-fired ceramics.

Initial enrollment must be for 3 credits.

Equivalent to 304-514. P: take ART-213. R

ART-415 Art Metal II 1-3 cr.

Fall, Spring and Summer

Advanced problems in design and construction of jewelry, hollow forms and objects in precious and non-precious materials. Initial enrollment must be for 3 credits.

Equivalent to 304-516. P: ART-215. R

ART-417 Printmaking II 1-3 cr.

Fall, Spring and Summer

Advanced work in the processes of relief, silkscreen, etching or lithographic printmaking. Initial enrollment must be for 3 credits.

Equivalent to 304-518. P: ART-217. R

ART-445 Senior Seminar 1 cr.

Summer Session

Professional practice including portfolio and senior exhibition; current ideas and career opportunities within the art profession. Senior level or higher. Studio Art or Art Education majors only. Equivalent to 304-545.

ART-456 Advanced Art Workshop 1-3 cr.

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract.

Equivalent to DES-456, 304-556. R

ARTED Art Education**ARTED-208 Preteaching Observation 2 cr.**

Fall Semester

Art education practices in K-12 classrooms through on-site observations, teaching-related activities and discussions. (A minimum of 50 hours of observation required.) Sophomore level or higher. Equivalent to 305-208.

ARTED-322 Art Education – Elementary 3 cr.

Spring Semester

Theory, methods and curriculum development with art teaching practicum for teaching elementary art. Focus on theory and practice.

Equivalent to 305-322. P: take ARTH-223, ARTH-224, ARTED-208, EDUC-303, EDUC-312, EDUC-326.

ARTED-323 Art Education – Secondary 3 cr.

Spring Semester

Theory, methods and curriculum development with art teaching practicum for teaching secondary art. Focus on theory and practice.

Equivalent to 305-323. P: ARTH-223, ARTH-224, ARTED-208, EDUC-303, EDUC-312, EDUC-326.

ARTED-408 Student Teaching in the Elementary School – Art 8 cr.

Fall and Spring Semesters

Directed teaching and community experience in selected off-campus elementary schools. Equivalent to 305-408. P: ARTED-322.

ARTED-409 Student Teaching in the Secondary School – Art 8 cr.

Fall and Spring Semesters

Directed teaching and community experience in selected off-campus secondary schools. Equivalent to 305-409. P: ARTED-323.

ARTH Art History**ARTH-222 Introduction To Art 3 cr.**

GEHUM ARTMU Fall Semester

Art appreciation and historical survey for the non-art major.

Equivalent to 304-202.

ARTH-223 Survey of Art — Ancient Through Medieval 3 cr.

GEHUM ARTMU

The painting, sculpture, architecture and minor arts in the ancient western world.

Equivalent to 304-523.

ARTH-224 Survey of Art-Renaissance through 20th Century 3 cr.

GEHUM ARTMU

Sculpture, painting, architecture and minor arts of western world from 14th century to present. Equivalent to 304-524.

ARTH-319 Evolution of Design 3 cr.

Summer Session

Examination of basic concepts which influence the evolution of architecture, art and design. Equivalent to 304-319. P: ARTH-224, ENGL-101 or ENGL-111.

ARTH-325 Egyptian and Mesopotamian Art 3 cr.

The evolution of the arts of ancient Egypt and the Near East.

Equivalent to 304-525.

ARTH-326 Greek and Roman Art 3 cr.

The arts of ancient Greece and Rome.

Equivalent to 304-526.

ARTH-327 Medieval Art 3 cr.

The arts of Europe and Byzantium from late Roman Empire to end of Middle Ages. Equivalent to 304-527.

ARTH-328 Italian Renaissance Art 3 cr.

Architecture, sculpture and painting of the Italian Renaissance from 14th to 17th century. Equivalent to 304-528.

ARTH-329 Northern Renaissance Art 3 cr.

Renaissance art in Northern Europe from 15th to 17th century.

Equivalent to 304-529.

ARTH-330 Northern Baroque Art 3 cr.

Architecture, painting, sculpture and other art forms of 17th century Northern Europe. Equivalent to 304-530.

ARTH-331 Southern Baroque Art 3 cr.

Development of art in Southern Europe from Italian Renaissance to 18th century. Equivalent to 304-531.

ARTH-333 Period Furnishings 3 cr.

Fall Semester

A survey of furniture and furnishings in the western world.

Equivalent to 304-533.

ARTH-334 American Art 3 cr.

Development of visual arts in the United States from colonial period to 1950. Equivalent to 304-602.

ARTH-335 19th Century Art in Europe 3 cr.

History of European art from about 1800 to 1900.

Equivalent to 304-603.

ARTH-336 Modern Art 3 cr.

Fall Semester

The main currents and developments in art from Monet and Cezanne to 1950.

Equivalent to 304-522.

ARTH-337 Art Since 1950 3 cr.

Developments in painting and sculpture in Europe and America since 1950.

Equivalent to 304-604. P: ARTH-224.

ARTH-338 Oriental Art 3 cr.

Art from prehistoric times to 19th century in China, Japan and their spheres of influence. Equivalent to 304-606.

BIO Biology**BIO-122 Introductory Biology 3 cr.**

GENSCI LFSC LAB Fall, Spring and Summer

Principles of biology: cellular metabolism, heredity and relationships between living organisms and their environments, with laboratory. Equivalent to 308-122.

BIO-125 Biology of Aging 3 cr.

GENSCI LFSC Spring Semester

Understanding the aging process. Physiological, demographic, immunological and overall health aspects of aging. Equivalent to 308-125.

BIO-128 Community Health 2 cr.

GEHPE HLTH Fall, Spring and Summer

Disease prevention through education, sanitation, isolation and immunization; public health programs and operation of federal and state laws.

Equivalent to BIO-342, 308-342.

BIO-130 Human Sexual Biology 3 cr.

GENSCI LFSC Fall and Spring Semesters

Male and female differentiation, development, structure, function and diseases of the reproductive system. Sperm and ovum production, fertility control, pregnancy, birth and lactation, mechanisms and patterns of inheritance.

Equivalent to BIO-310, 308-310.

BIO-132 Human Biology 4 cr.

GENSCI LFSC LAB Fall, Spring and Summer

Basic concepts of physiological processes and anatomy of all organ systems of humans, based on dissection of a cat; embryological development.

Equivalent to BIO-134, 308-132, 308-134, 308-214.

BIO-134 Physiology and Anatomy Sciences 4 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Introductory human anatomy and physiology with emphasis on physiological mechanisms which maintain homeostasis. Students may not receive credit for both BIO-134 and BIO-132.

Equivalent to BIO-132, 308-132, 308-134, 308-214.

BIO-150 Environmental Science 2 cr.

GENSCI LFSC Fall, Spring and Summer

The relationship of humans to the natural environment. Study of ecological principles in relation to contemporary problems such as resource utilization, human population dynamics, waste and pollution control.

Equivalent to 308-150.

BIO-152 Zoology 4 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Introduction to fundamental concepts of animal life, survey of animal kingdom, structure and physiology of representative animals, evolutionary relationships. Equivalent to 308-152.

BIO-162 Biotechnology 3 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Techniques of modern biotechnology, emphasizing laboratory production and analysis of recombinant DNA. High school biology or chemistry or equivalent required. Equivalent to 308-162.

BIO-206 Food Service and Environmental Sanitation 1 cr.

Fall and Spring Semesters

Microbial problems in food service industry: sanitation, storage, handling, distribution, serving, personnel, equipment and facilities.

Equivalent to 308-206.

BIO-220 Physiology of Disabilities 3 cr.

Fall and Spring Semesters

Causes, consequences, prognoses and treatments of diseases and injuries common in today's society. Includes genetic disorders, birth defects, cancers, degenerative disorders, spinal cord injuries, cardiovascular abnormalities and immune disorders. Equivalent to 308-220. **P:** BIO-132 or BIO-134.

BIO-242 Botany 4 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Introduction to structure and function of plants, survey of plant kingdom, and structure and life history of representative forms of plant life.

Equivalent to BIO-142, 308-142.

BIO-255 The Biology of Fly Fishing 2 cr.

GENSCI LFSC Spring Semester

The science and art of fly fishing. Research aquatic environments and ecosystem dynamics to understand the relationship between fish and the world around them. Gain exposure to aquatic ecology, fish and insect identification and behavior, and fly tying.

BIO-306 General Microbiology 4 cr.

Fall and Spring Semesters

Structure and physiology of yeasts, molds and bacteria; growth requirements, methods used in culture and identification, bacterial analysis of water and milk, other problems in sanitation and food bacteriology.

Equivalent to 308-306.

BIO-332 Genetics 3 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Fundamental principles of genetics, from Mendel to the present; applications to plants, animals and humans. Laboratory reinforces principles studied in lecture and includes performance of genetic crosses, the cell, mitosis/meiosis, use of mathematical tools to analyze data, gene mapping, karyotyping, pedigree analysis, and the concepts of transformation/transduction.

Equivalent to 308-332. **P:** BIO-122.

BIO-350 Ecology 3 cr.

GENSCI LFSC LAB Fall and Spring Semesters

Interrelationships of organisms with their abiotic and biotic environments.

Equivalent to 308-350.

BIO-355 Scientific Illustration 2 cr.

Fall Semester

Application of art/graphic skills to the field of scientific communication: illustration of biological specimens, physiological processes, and graphs and tables. Junior level or higher.

Equivalent to 308-355. **P:** ART-200.

BIO-358 Introductory Pharmacology 2 cr.

Fall and Spring Semesters

Discussion of the sites and mechanisms of drug action, mechanisms of drug distribution, biotransformation and elimination. Analgesics and psychoactive drugs, drugs used clinically to impact cardiovascular care and to manipulate the reproductive system. Equivalent to 308-358. **P:** BIO-132, BIO-134 or CHEM-135.

BIO-360 Introduction to Neuroscience 3 cr.

Fall Semester

Investigation of the human nervous system at the molecular, cellular and system level. Organization and function of neuronal cells, sensory receptors, sensory and motor pathways and integration centers. Introduction to electrophysiology, biochemistry of neurotransmitters and receptors, neuropharmacology, development of the nervous system, and consequences of neuronal disease and trauma. Equivalent to 308-650. P: BIO-132 or BIO-134.

BIO-361 Psychobiology 2 cr.

Spring Semester

Biological basis of human and animal behavior: evolution of physiological and behavioral adaptations of organisms to their environment.

Equivalent to 308-651.

BIO-362 Advanced Physiology 3 cr.

Fall and Spring Semesters

Human physiology with emphasis on integration of the nervous, muscular, cardiovascular, immune, renal, respiratory, digestive and endocrine systems. Cellular and molecular processes are studied. Computer simulations and experiments in frog physiology will be utilized.

Equivalent to 308-362. P: BIO-134.

BIO-406 Food Microbiology 3 cr.

Fall and Spring Semesters

Methods of food preservation, their effectiveness and related food spoilage by microorganisms. Quality control techniques used to determine presence of specific groups of economically important microorganisms.

Equivalent to 308-506. P: BIO-306.

BUACT Business Accounting**BUACT-200 Financial-Managerial Accounting – Engineering Technology 2 cr.**

Fall and Spring Semesters

Survey of financial accounting concepts for a sole proprietorship, partnership, and corporation. Managerial accounting concepts will be covered in use of the annual report, with emphasis on financial statement analysis.

Equivalent to 160-105, 160-200.

BUACT-201 Financial-Managerial Accounting 3 cr.

Fall and Spring Semesters

Survey of financial accounting concepts for a sole proprietorship, partnership and corporation. Managerial accounting concepts will be covered in the use of the annual report, with emphasis on financial statement analysis including the cash flow statement and budgets. Equivalent to 160-201.

BUACT-206 Introduction to Financial Accounting 3 cr.

Fall, Spring and Summer

Theory of debit and credit, principles of accounting records, modern business papers, working sheets, balance sheets and income statements, and sole proprietorships. Sophomore level or higher. Equivalent to 160-206.

BUACT-207 Introduction - Corporate and Managerial Accounting 3 cr.

Fall, Spring and Summer

Development of basic accounting theory from BUAUT-206: partnership and corporate forms of organization; branch and manufacturing accounting; cost accounting, budgeting and analysis and interpretation of financial statements.

Equivalent to 160-207. P: BUAUT-206.

BUACT-312 Cost Accounting 3 cr.

Fall and Spring Semesters

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting.

Equivalent to BUAUT-410, 160-312, 160-410. P: BUAUT-206.

BUACT-320 Income Tax Accounting 3 cr.

Fall and Spring Semesters

General concepts of U.S. tax law and its effect on individual, partnership, and corporate decisions; computation of federal and state taxes for individuals.

Equivalent to 160-320. P: BUAUT-206.

BUACT-335 Accounting for Management Decisions 3 cr.

Fall and Spring Semesters

Interpretation of financial statements, internal control, budgeting, costing of products manufactured and sold, analysis of cost-volume-profit decisions. Data presented without mechanical techniques.

Equivalent to 160-335. P: BUAUT-207.

BUACT-340 Business Finance 3 cr.

Fall, Spring and Summer

Concepts of raising, allocating and controlling capital for business entities; analysis of the income tax system and its relevance with business decisions; analysis of financial data in making investment decisions.

Equivalent to 160-340. P: BUAUT-207 STAT-130 MATH-123.

BUACT-346 Seminar 2 cr.

Current topics in business. (Title will reflect specific business content.) R

BUACT-410 Manufacturing Cost Analysis 3 cr.

Fall and Spring Semesters

Emphasis on concepts and techniques of cost analysis. Application of cost information and discussion of techniques and budgeting for a manufacturer.

Equivalent to BUAUT-312, 160-312, 160-410. P: BUAUT-206 or BUAUT-201.

BUINB Business International Business**BUINB-260 Introduction to International Business 3 cr.**

Fall and Spring Semesters

Introduction to the interaction of foreign business, politics, culture, societies on basic international business systems. Basic terminology of International Business is of primary importance. Sophomore level or higher.

Equivalent to 160-260.

BUINB-338 International Logistics 3 cr.

Spring Semester

International logistics strategy: customer service, inventory, transportation, packaging, warehousing, storage, exporting, licensure, joint ventures, ownership documentation, terms of trading, organization, financial and management skills. Equivalent to 160-538. P: BUMKG-438.

BUINB-367 International Management 3 cr.

Fall Semester

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations. Equivalent to 160-567. P: BUMGT-304.

BUINB-485 International Marketing 3 cr.

Fall and Spring Semesters

Principles and policies of marketing goods and services in international markets. Concepts, strategies and policies of world trade and multinational firms. Equivalent to 160-585. P: BUMKG-330.

BUINB-488 International Business Practicum 3 cr.

Fall and Spring Semesters

Assist an actual business in developing their international marketing plan. Students, under the supervision of a faculty member, determine a product's foreign marketability. Equivalent to 160-588. P: BUINB-485.

BUINB-489 International Business Policies 3 cr.

Fall and Spring Semesters

Students develop the ability to solve business problems in the international arena using a scientific approach to decision making by studying business cases on international policy formulation and administration, manufacturing, marketing, finance, accounting, personnel and public relations functions. Senior level or higher.

Equivalent to 160-689. P: 1 course from subject BUINB, BUMGT-304, BUMKG-330 or BUAUT-340, and ECON-210 or ECON-201.

BULGL Business Legal**BULGL-318 Business Law I 3 cr.**

Fall, Spring and Summer

Introduction to the nature of law, the legal system and the judicial process; also includes contracts, sales of goods and agency. Junior level or higher.

Equivalent to 160-318.

BULGL-319 Business Law II 3 cr.

A continuation of Business Law I; includes property, secured transactions, bankruptcy, estates, commercial paper, partnerships, and corporations. Equivalent to 160-319. P: BULGL-318.

BULGL-355 Principles of Risk Management 3 cr.

Fall and Spring Semesters

An overview of the role of management of risks in business with emphasis on identification of risks and evaluation to determine methods of handling them. We will consider all methods with emphasis on insurance. Junior level or higher. Equivalent to 160-355.

BULGL-365 Principles of Real Estate 2 cr.

Fall and Spring Semesters

Overview of transactions in real estate, examination of the law as it relates to nature of real property, interests in real property, acquiring ownership, brokerage, real estate sales contracts, financing, land use control, and leasing and property management. Equivalent to 160-365.

BULGL-401 Legal Environment of Business 2 cr.

Fall and Spring Semesters

Changing relationship of government and industry: regulatory legislation, administrative agencies, national policies and social control. Equivalent to 160-601.

BULGL-473 Legal Aspects of Construction 3 cr.

Fall Semester

Analysis of contracts and documents used in building construction industry: rights of the parties. Labor relations: law and labor, legality of strikes, legality of picketing and boycott as economic pressure, unfair labor practices, employer and union, rights and responsibilities of supervisor and worker.

Equivalent to 160-573.

BUMGT Business Management**BUMGT-100 Introduction To Business Administration 1 cr.**

Fall and Spring Semesters

Basic business systems processes, their interrelationships and role of business environment. Business Administration Program: advisement, course sequence and job opportunities. General Business Administration majors only.

Equivalent to 160-100.

BUMGT-115 Understanding Business 2 cr.

Concepts, functions, and interrelationships of various subdivisions of service and production organizations. Equivalent to 160-115, 150-115.

BUMGT-304 Principles of Management 3 cr.

Fall, Spring and Summer

Basic managerial functions: planning, organizing, staffing, directing and controlling; management principles with universal applications; nature of authority and responsibility, departmentation, line and staff relations; enterprise manager in the social setting, comparative management; and management and the future. Equivalent to 150-304, 160-304.

BUMGT-398 Business Administration Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Equivalent to BUMKG-370, 160-370, 309-470, 160-398. R

BUMGT-480 Entrepreneurship: Small Business Planning 3 cr.

Fall and Spring Semesters

Concepts, strategies, and applications involved in entrepreneurship. Profile of entrepreneurs and the risks and rewards, creating products and services for the market place, going into business — start-up, buy out, franchise — legal and financial aspects. Preparing a business plan required.

Equivalent to 160-535. P: BUMKG-330, BUAUT-206 or BUAUT-200.

BUMGT-489 Business and Industrial Internship 1-8 cr.

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. Equivalent to 160-489. R

BUMGT-490 Strategic Management and Business Policy 3 cr.

Fall and Spring Semesters

Integrates previous business studies, develops ability to solve business problems through scientific approaches to decision-making. Students use business cases on policy formulation and administration: manufacturing, marketing, finance, accounting, personnel, and public relations functions. Senior level or higher.

Equivalent to 160-690. P: BUMKG-330, BUAUT-340, ECON-210 or ECON-201.

BUMGT-498 Business Administration Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges of being an effective manager.

Equivalent to 160-498. R

BUMIS Business Management Information Systems**BUMIS-310 Special Topics – Management Information Systems 2 cr.**

Fall and Spring Semesters

Improving the practice of business management through the utilization of computer software management information systems. An information system aids management in making, carrying, and controlling decisions. Repeatable for credit. Equivalent to 160-310. R

BUMIS-333 Management Information Systems**- Decision Support Systems 3 cr.**

Fall, Spring and Summer

Improving the practice of business management through utilization of computer software based management information systems (MIS). Employs spreadsheet software as an aid to management in making, implementing and controlling decisions. Equivalent to 160-333. P: BUACT-206.

BUMKG Business Marketing**BUMKG-330 Principles of Marketing 3 cr.**

Fall, Spring and Summer

Retail, wholesale, advertising, channels of distribution, cooperative marketing, pricing, marketing research and marketing legislation from consumer's, middleman's and manufacturer's standpoint. Equivalent to 160-330.

BUMKG-334 Salesmanship and Sales Management 3 cr.

Fall, Spring and Summer

Concepts of selling: locating prospects, securing and conducting sales presentations, analyzing and handling different types of customers, closing sale, maintaining goodwill. Sales organizations: recruitment, selection, training compensation and cost control methods.

Equivalent to 160-334, 309-404. P: BUMKG-330.

BUMKG-337 Purchasing 3 cr.

Fall and Spring Semesters

Exploration of decision making process used in purchasing goods and services; procurement process, paper flow, economics of purchasing and legal aspects.

Equivalent to 160-337. P: BUMKG-330.

BUMKG-370 Principles of Advertising 3 cr.

Fall and Spring Semesters

Psychological, social and economic aspects of advertising in relationship to other aspects of distribution and its place in modern business.

Equivalent to 160-370, 309-470. P: BUMKG-330.

BUMKG-436 Marketing Management 3 cr.

Fall and Spring Semesters

Examination of the marketing place with emphasis on unique characteristics of the marketing environment. Special emphasis on case study analysis and discussion. Advanced marketing course required.

Equivalent to 160-336, 160-436. P: BUMKG-330, BUACT-207.

BUMKG-438 Industrial Distribution 3 cr.

Fall and Spring Semesters

Principles of logistics management as applied to industrial distribution channels. Examines channel structure, objectives and strategies. Emphasizes the role of transportation, warehousing and inventory in providing customer service. Equivalent to 160-438. P: BUMKG-330.

BUMKG-439 Industrial Distribution Seminar 2 cr.

Spring Semester

Culminating and synthesizing experiences in industrial distribution. Individual topics will vary from semester to semester reflecting the latest changes in the field. Equivalent to 160-638.

BUMKG-479 Marketing Research 3 cr.

Fall and Spring Semesters

Experimental and survey techniques to secure information for successful marketing; primary and secondary sources; data collection, compilation and analysis methods; effective communication of conclusions and recommendations to management.

Equivalent to 160-679. P: BUMKG-330, and STAT-130, STAT-320, STAT-331 or ECON-325.

BURTL Business Retail**BURTL-105 Introduction to Retail Merchandising and Management 1 cr.**

Fall Semester

Exploration of origin, structure and trends in retail business. Includes industry expectations, career opportunities, curriculum and other requirements, and industry periodicals. Equivalent to 214-105, 214-120.

BURTL-109 Introduction to Interior Decorating 3 cr.

Fall Semester

Identification and application of design elements and principles as they relate to interior decorating. Identification of the professional role of the interior decorator. Equivalent to 214-109.

BURTL-112 Trend Forecasting of Apparel/Home Products 3 cr.

Fall Semester

Theories of fashion, fashion cycle, process and diffusion. Forecasting of fashion trends based on fashion theory, socio/cultural and psychographic factors.

Equivalent to 214-112, 214-113.

BURTL-222 Computer Applications 2 cr.

Microcomputer applications. Analysis of appropriate data bases. Evaluation of software. Hardware selection criteria appropriate to applications. Comparison of mainframe and microcomputer appropriate applications. Prediction of future applications. Repeatable for various subunits.

Equivalent to CHD-325, 100-325, 200-325, 200-325C, 214-222.

BURTL-227 Basic Merchandising 3 cr.

Fall and Spring Semesters

Merchandising in department, specialty and discount stores; marketing strategies, operations, buying, trend merchandising, and fundamentals for apparel and hardlines. Equivalent to 214-227.

BURTL-229 Visual Merchandising 3 cr.

Spring Semester

Specialized study and application of merchandise/product presentation techniques for individual displays and store designs. Interpreting basic design elements and principles for display; selecting and using of appropriate tools, fixtures, and materials; coordinating visual presentations and other promotional activities to achieve marketing objectives. Equivalent to 214-229.

BURTL-319 International Economic Trends in Textiles and Clothing 3 cr.

Fall and Spring Semesters

Economic importance of the textile and apparel industries in the United States and the world. Equivalent to 214-519. P: APRL-140 ECON-210.

BURTL-322 Merchandising and Marketing an Apparel Line 2 cr.

Spring Semester

Merchandising and marketing of product lines from manufacturer to retailer to consumer. Equivalent to 214-322. P: BURTL-227.

BURTL-325 Men's and Boys' Merchandising 1 cr.

Specialized techniques of merchandising men's wear and boys' wear: stock planning, market trends and controls. Equivalent to 214-525.

BURTL-327 Store Management 3 cr.

Fall and Spring Semesters

Develop management skills for retail stores of varying size. Senior level or higher. Equivalent to 214-527. P: BURTL-430.

BURTL-329 Fashion Merchandising Promotion 3 cr.

Fall Semester

Application of fashion merchandising promotion procedures: display, oral and written promotional communication, and publicity.

Equivalent to 214-329. P: BURTL-227.

BURTL-330 Home Furnishings Merchandising 2 cr.

Spring Semester

Home furnishings merchandised by primary types of retail outlets.

Equivalent to 214-330. P: BURTL-227.

BURTL-335 Special Topics in Retail Merchandising and Management 1-3 cr.

Fall, Spring and Summer

Equivalent to 214-535, 214-535A. R

BURTL-350 Marketing to Aging and Minority Consumers 2 cr.

Fall Semester

Identify product and service needs of Native, African, Asian and Hispanic Americans, and aging consumers. Interpret demographic, psychological and cultural data of these special populations and develop merchandising strategies. Equivalent to BURTL-335, 214-535, 214-535A. P: BUMKG-330.

BURTL-389 Logistics for Retail Merchandising 3 cr.

Fall and Spring Semesters

The market planning, acquisition, movement, and maintenance of retail merchandise stocks. Junior level or higher. Equivalent to 214-389.

BURTL-398 Field Experience 1-2 cr.

Off-campus work and study in approved position to better understand challenges and potentials of various careers in merchandising and clothing and textile industries. Equivalent to APRL-398, 214-398. R

BURTL-400 Self-Presentation in Business 1 cr.

Learn and practice skills of self-presentation in business and professional world.

Equivalent to 214-400.

BURTL-409 Interior Decorating Studio 3 cr.

Spring Semester

Analysis and application of decorating trends. Development of resource file of interior decorating trends and application of interior decorating concepts to specific client needs. Senior level or higher.

Equivalent to 214-409. P: DES-304.

BURTL-417 Social/Psychological Aspects of Clothing 3 cr.

Fall and Spring Semesters

Social and psychological influence of dress on individual and group behavior patterns. Equivalent to 214-617, 214-480.

BURTL-419 National Study Tour to the Fashion Industry 1 cr.

Fall and Spring Semesters

Five-day visit to New York or alternate city: study hours, discussions and lectures by leaders in American fashion market. Junior level or higher.

Equivalent to APRL-419, 214-639, 214-619, BUINB-260. R

BURTL-425 Current Retail Strategies for a Differential Advantage 2 cr.

Fall and Spring Semesters

Comparative analysis of specific retail corporations' strategies to gain a differential advantage with their merchandising and operational methodology.

Equivalent to 214-425, 214-625. P: BURTL-227, BURTL-389.

BURTL-426 Fashion Retailing Practicum 4 cr.

Fall, Spring and Summer

Observation and structured experience in merchandising procedures dealing with complete operations and management of retail establishment.

Equivalent to 214-426, 214-626. P: BURTL-329, BURTL-430.

BURTL-430 Merchandise Planning and Control 4 cr.

Fall and Spring Semesters

Techniques of merchandising fashion departments: budgeting, assortment planning, managing inventory; buying for resale. General education MATH must be completed. Equivalent to 214-230, 214-430. P: BUAUT-206.

BURTL-431 Service Management Strategies 3 cr.

Fall and Spring Semesters

Analysis of modes of service. Planning strategies leading to quality implementation, utilizing extensive case studies. Equivalent to 214-631, 150-631.

BURTL-471 International Textile Apparel Sourcing 3 cr.

Fall Semester

Explore global market sources of apparel products for the vertical channel of fashion marketing. Analyze sourcing strategies and evaluate domestic/international sourcing options considering human resources, transportation, communication, production capabilities, cultural priorities, political influences, costs, quality, and technology. Equivalent to 214-671. P: ECON-210.

BURTL-477 Study Abroad – American Fashion College 16 cr.

Fall Semester

A program for selected students which offers an opportunity to study at the American Fashion College in London with the opportunity to travel in Europe. Must have a 2.5 GPA in professional core. Apparel Design/Manufacturing or Retail Merchandising/Management majors only. Equivalent to 214-477.

CADD CADD/Drafting**CADD-112 Principles of Engineering Drawing 3 cr.**

Fall and Spring Semesters

Drafting principles, concepts, and graphic language necessary to communicate technical information on industrial drawings through sketching, traditional drafting (*TRAD*) and computer (*CAD*) techniques.

Equivalent to 183-112, 183-110, 130-110, 183-112.

CADD-113 Principles of Engineering Drawing II 2-3 cr.

Fall and Spring Semesters

An advanced study of drafting principles, concepts and techniques using the graphic language necessary to communicate with manufacturing personnel, floorworkers, designers and engineers. Reading, research analysis and graphic solutions using sketches, traditional (*TRAD*) and computer (*CAD*) drafting are used. Equivalent to 183-113. **P:** CADD-112.

CADD-115 Engineering Graphics 5 cr.

Spring Semester

A comprehensive study of drafting principles, practices and use of standards. The content is sequenced so the learner understands the language needed to communicate with designers, engineers, technicians and assemblers in manufacturing industries. Sketching, traditional and CAD drafting techniques will be used to solve problems. Equivalent to 183-115.

CADD-120 Design Drafting 3 cr.

Fall Semester

Design concepts and drafting techniques. Freehand sketching, problem solving, and drafting procedures to communicate the design intent for multiview drawings. Emphasis on spatial visualization, conceptualization, and graphic communication. Equivalent to 183-120.

CADD-212 Descriptive Geometry 3 cr.

Fall Semester

Graphic representation and solution of space problems involving points, lines, planes, intersections, revolutions and vectors.

Equivalent to 130-212, 183-212.

CADD-234 Computer-Assisted Design and Drafting 2 cr.

Fall Semester and Summer Session

PC based CADD; solve problems with the assistance of computer hardware and software. Generate drawings for architectural and mechanical design applications.

Equivalent to 130-234, 183-234. **P:** CADD-112, AEC-130 or AEC-131.**CADD-395 Seminar 1-2 cr.**

Summer Session

(*Title will reflect specific design, research and development content*). Current and projected communication methods, concepts, technologies and innovations in design, research and development. Equivalent to 183-595. **R**

CADD-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in design, research and development, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 183-600. **R**

CADD-436 Computer Assisted Design Problems 2 cr.

Spring Semester

Advanced CADD applications. Construct three dimensional wireframe drawings. Perform finite element analysis on select components. Customize software for specific applications. Customize software for specific applications. In-depth analysis of CADD applications in mechanical and architectural design. Instructor's consent required. Equivalent to 130-636, 183-636.

CADD-466 3-D Computer Modeling and Rendering 3 cr.

Spring Semester

Development of three-dimensional computer models and computer graphic images. Includes 3-D surface modeling and rendering.

P: CADD-113 or CADD-234.**CAS College of Arts and Sciences****CAS-201 Edinburgh Experience 1 cr.**

Fall and Spring Semesters

Introduction to the city of Edinburgh and the arts of Scotland including music, theater and dance through attendance and critique of events during the Edinburgh Festival. Offered only at the Wisconsin in Scotland (WIS) center.

Equivalent to 300-201.

CAS-250 Soviet Seminar Tour 2 cr.

Spring Semester

Introduction to Russian civilization and contemporary Soviet society and government: tours of schools, museums, churches and historical sites; seminars with Soviet students and community leaders. Equivalent to 300-250.

CAS-375 The Ascent of Man 2 cr.

Spring Semester

Exploring the nature and intellectual, philosophical and technical growth of humankind using "The Ascent of Man" TV series as basis for thought and discussion. Equivalent to 300-575.

CHD College of Human Development**CHD-101 Introduction to Human Services 1 cr.**

Exploration of the field of human services: careers, purpose, principles, professional skills, clients, and models of delivery. Analysis of suitability for a career in human services.

CHD-325 Computer Applications in Home Economics 2 cr.

Microcomputer applications in home economics. Analysis of appropriate data bases. Evaluation of home economics software. Hardware selection criteria appropriate to home economics applications. Comparison of mainframe and microcomputer appropriate applications. Prediction of future applications. Repeatable for various subunits. Instructor's consent required.

Equivalent to BURTL-222, 100-325, 200-325, 200-325C, 214-222.

CHEM Chemistry**CHEM-105 Visualizing Chemistry 2 cr.**

GENSCI PHYSC Fall, Spring and Summer

Simple demonstrations that illustrate and reinforce understanding of the physical and chemical properties of matter. Description of the underlying chemistry and chemical safety.

CHEM-115 General Chemistry 5 cr.

GENSCI PHYSC LAB Fall, Spring and Summer

Fundamental principles of chemistry with applications: composition and structure of matter, formation and naming of compounds, mole concept, writing and balancing chemical equations, types of reactions, elementary stoichiometry, bonding, states of matter, equilibrium, solutions, acids and bases. High School Algebra. Math Proficiency greater than or equal to MATH-110.

Equivalent to 311-115.

CHEM-125 Principles of Chemistry For Health Sciences 5 cr.

GENSCI PHYSC LAB Fall Semester

Principles of chemistry: general, reaction stoichiometry, equilibrium and thermodynamics. Equivalent to 311-125.

CHEM-135 College Chemistry I 5 cr.

GENSCI PHYSC LAB Fall and Spring Semesters

Principles of inorganic chemistry, properties of important elements and compounds. More rigorous approach and more extensive coverage than in CHEM-115. Normally followed by CHEM-136. Math Proficiency greater than or equal to Math-121. Equivalent to 311-135. P: MATH-120.

CHEM-136 College Chemistry II 5 cr.

GENSCI PHYSC LAB Fall and Spring Semesters

Reactions and properties of common elements and inorganic compounds; oxidation-reduction and solution equilibria; electrochemistry. Lab work in qualitative analysis for common ions. Instructor's consent required.

Equivalent to 311-136. P: take CHEM-135, or MATH-120 and CHEM-125.

CHEM-201 Organic Chemistry I 4 cr.

Fall and Spring Semesters

Chemistry of carbon compounds: naming, bonding, structure, physical characteristics, reactions. Compounds include hydrocarbons, aromatic compounds, alcohols, ethers, aldehydes, ketones, acids, esters, amines, amides, thiols and sulfides. Laboratory exercises on compound characteristics (*physical and chemical*), compound identification, reactions and reaction types.

Equivalent to 311-201. P: take CHEM-115 with a minimum grade C; or take CHEM-125 with a minimum grade C; or take CHEM-135.

CHEM-204 Organic Chemistry II Lecture 3 cr.

Spring Semester

Continuation of Organic Chemistry I; organic reactions, organic compound synthesis, reaction to mechanisms and kinetics, transition state theory, thermodynamics; introduction to IR, NMR and UV-visible spectroscopy of organic compounds. Equivalent to 311-204. P: CHEM-201.

CHEM-206 Organic Chemistry II Laboratory 1 cr.

Spring Semester

Systematic identification of organic compounds using chemical, physical, and instrumental methods with option for organic compound synthesis.

Equivalent to 311-206. P: CHEM-201. Corequisite: CHEM-204.

CHEM-301 Physical Chemistry Lecture 3 cr.

Fall and Spring Semesters

Fundamental physical chemistry; behavior of gases, liquid state, properties of solutions, principles of thermodynamics, thermochemistry. Taken concurrently with CHEM-303.

Equivalent to 311-501. P: take CHEM-115; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-303 Physical Chemistry Laboratory 1 cr.

Lab course to be taken concurrently with CHEM-301. Experimental techniques and apparatus; treatment of experimental data.

Equivalent to 311-503. P: take CHEM-115; or CHEM-125; or CHEM-135 and MATH-156.

CHEM-311 Biochemistry 4 cr.

Fall and Spring Semesters

Fundamental chemistry and metabolism of carbohydrates, lipids and proteins; second- and third-order structure of proteins; chemistry of nucleic acids; nature and dynamics of enzymes and enzyme action; biological oxidations; lab work in metabolism, chromatography, enzyme action, qualitative and quantitative analytical procedures. Equivalent to 311-511. P: BIO-132 CHEM-201.

CHEM-315 Food Chemistry 3 cr.

Spring Semester

Organic biochemistry of foods: enzymatic and non-enzymatic changes associated with food preparation and storage (*Maillard-Browning reaction*), denaturation of protein, changes in color, odor, texture and nutritive value. Techniques for isolation and identification of biochemical constituents of foods.

Equivalent to 311-515. P: CHEM-115, CHEM-125 or CHEM-135; and CHEM-201.

CHEM-325 Chemistry of Polymers 4 cr.

Fall Semester

Basic science of polymers. Common industrial polymers and their applications. Relationship of the structure and salient structural features of industrial polymers with their properties and applications. P: CHEM-135.

CHEM-331 Quantitative Analysis 3 cr.

Fall Semester

Introduction to the principles of quantitative chemical analysis and training in precision laboratory techniques.

Equivalent to 311-531. P: CHEM-115, CHEM-125 or CHEM-135; and CHEM-136 or CHEM-201.

CHEM-335 Instrumental Methods of Analysis 3 cr.

Spring Semester

Application of instrumental methods to chemical analysis: electrochemical, spectrophotometric, chromatographic, and thermal analysis. Techniques for methods development, sample preparation, optimization of operating conditions, and data analysis needed to obtain accurate, reproducible results by means of instrumentation.

Equivalent to 311-535. P: CHEM-115, CHEM-125 or CHEM-135; and CHEM-136 or CHEM-201.

CHEM-341 Chemistry of Materials 4 cr.

Fall and Spring Semesters

Relationship of the chemistry and microstructure of structural materials (*metals, polymers and ceramics*) to their properties; degradation of those materials, corrosion of metals, polymers and ceramics.

Equivalent to 311-541. P: CHEM-115, CHEM-125 or CHEM-135.

CHEM-353 Environmental Chemistry 3 cr.

Fall and Spring Semesters

Principles and origins of chemical reactions that lead to ecological imbalance; systems that have contributed to large-scale environmental pollution or are of current importance; chemical technology needed to correct imbalance.

Equivalent to 311-553. P: CHEM-115 CHEM-125 or CHEM-135.

CHEM-410 Industrial Hygiene Instrumentation 2 cr.

Fall Semester

Workplace environment evaluation using direct reading instruments and integrated sampling techniques in the laboratory. Equivalent to 312-410.

CHEM-412 Advanced Biochemistry 3 cr.

Fall and Spring Semesters

Molecular biology of humans and other organisms; biosynthesis and catabolism, emphasizing enzyme action; chemistry of specific tissues and fluids.

Equivalent to 311-612. P: CHEM-201, CHEM-311.

CHEM-440 Advanced Materials Laboratory 1-3 cr.

Fall and Spring Semesters

Student-devised laboratory experiments to solve a materials problem provided by the instructor. Instructor's consent required.

Equivalent to 311-440. P: CHEM-115 CHEM-125 or CHEM-135. R

CHEM-470 Chemistry of Materials II 3 cr.

Fall and Spring Semesters

Advanced principles of materials: diffusion, phase transformations, corrosion kinetics and failure analysis.

Equivalent to 311-470. P: CHEM-301, CHEM-341; and MATH-250 or MATH-255.

COUN Counseling**COUN-400 Workshop in Counseling 1-3 cr.**

Current specialized topics studied through experiential activities.

Equivalent to 439-600. R

COUN-405 Peer Counseling 3 cr.

Fall and Spring Semesters

Laboratory experience will train class participants to be peer counselors and trainees for peer groups that counsel among themselves using skills in listening, giving support and providing alternatives through verbal and non-verbal interaction. Equivalent to 439-405, 413-405.

COUN-447 Assessment and Treatment of Eating Disorders 2 cr.

Description and diagnostic criteria for anorexia nervosa, bulimia nervosa, obesity, and compulsive overeating. Psychological, sociological, and familial influences on the development of the disorders. Assessment instruments, approaches, and treatment considerations.

COUN-475 Counseling Theory 3 cr.

Fall, Spring and Summer

History and theories of counseling and psychotherapy: psychoanalytic, humanistic/existential, cognitive/behavioral, family systems, feminist, and others. Underlying personality theory. Integration and eclecticism in counseling practice. Illustrative practical applications. Integration of counseling theory into a personal counseling style. Equivalent to 439-675.

COUN-494 Counseling Older Persons 2-3 cr.

Spring Semester

Training service providers in counseling skills and gerontology through discussion, observation and supervised counseling experiences.

Equivalent to 439-694, 413-694.

CS Computer Science**CS-140 Computer Concepts 2 cr.**

Fall, Spring and Summer

Introduction to computing; history of computers, hardware, software and terminology; components and functions of computers; programming concepts and basic applications; running programs written by others; writing programs in basic time-sharing language. Equivalent to 354-140.

CS-141 Computer Programming-BASIC 2 cr.

GEANRSN MATH Fall, Spring and Summer

Beginning computer programming using BASIC: input, output, flow of control, arrays, files, and subprograms. Equivalent to 354-141.

CS-144 Computer Science I 3 cr.

GEANRSN MATH

Problem-solving and algorithm development using a high-level programming language. Computer organization, programming language and programming, elements of programming style, documentation, introduction to structured programming. Equivalent to 354-144.

CS-145 Computer Science II 3 cr.

Problem-solving and algorithm development using a high-level language. Structured programming concepts, debugging and testing, string processing, searching and sorting, elementary data structures, recursion and files.

Equivalent to 354-145. P: CS-144.

CS-240 FORTRAN Programming 3 cr.

Fall, Spring and Summer

FORTRAN programming language and its use in scientific and engineering applications. Equivalent to 354-240.

CS-241 Assembly Language Programming 3 cr.

Fall and Spring Semesters

Basic concepts in computer systems including computer structure, machine language, assembly languages, addressing techniques, macros, file I/O, program segmentation and linkage. Equivalent to 354-241. P: CS-145.

CS-246 Computer Programming – COBOL 3 cr.

Fall and Spring Semesters

Introduction to computer systems and their use; development of programming practices and techniques, flowcharting, and application through business-oriented translating language. Equivalent to 354-246. P: CS-141 or CS-144.

CS-248 Web and Internet Programming 3 cr.

Fall and Spring Semesters

Design and implementation of web and internet software systems using current programming languages, scripting languages, and interface standards. Network programming and client/server applications. Event-driven programming, multi-threading, exception handling, windows programming and multimedia programming. Support for database access via web programs.

Equivalent to 354-248. P: CS-145.

CS-341 Data Structures 3 cr.

Fall and Spring Semesters

Review of set theory, functions and relations; basic concepts of data; lists, strings and arrays; representation of graphs and trees; storage systems and structures; symbol tables and searching techniques; sorting (ordering) techniques. Equivalent to 354-341. P: CS-145.

CS-342 Survey of Programming Languages 3 cr.

Fall and Spring Semesters

Programming languages and language design. Comparative study of three modern high level languages and their application strengths for systems programming, embedded computer systems and artificial intelligence.

Equivalent to 354-342. P: CS-241, CS-341.

CS-343 Mathematical Foundations of Computer Graphics 3 cr.

Fall, Spring and Summer

Fundamental hardware, software, mathematics, data structures and algorithms for computer graphics.

Equivalent to 354-343. P: CS-241, CS-341, MATH-158, MATH-275.

CS-345 Image Processing 3 cr.

Spring Semester

Theory and applications of digital image processing. Mathematical foundations and algorithms for enhancement, restoration, compression, segmentation and reconstruction from projections.

Equivalent to 354-545. P: MATH-255, MATH-275, CS-341, STAT-332.

CS-346 Simulation Modeling and Analysis 3 cr.

Fall and Spring Semesters

Simulation as a problem-solving technique; models, analysis and languages for simulation; data collection; random variate generation; verification and validation; output analysis; optimization of systems.

Equivalent to 354-546. P: CS-341, STAT-332.

CS-441 Computer Organization 3 cr.

Fall Semester

Hierarchical organization of a computer system: CPU, memory, I/O modules. Detailed analysis of the CPU and control unit implementation.

Equivalent to 354-441. P: CS-241 CS-341.

CS-442 Systems Programming 3 cr.

Spring Semester

Design, organization and case studies of major systems software: assemblers, loaders, linkers, macro processors, compilers, and operating systems. Relationship between machine architecture and system software.

Equivalent to 354-442. P: CS-441.

CS-443 Database Systems Manipulation and Design 3 cr.

Fall and Spring Semesters

Conceptual and logical organization of data, data models, data manipulation and data definition languages, and design of databases. Distributed database systems; integrity, constraints, concurrency, security, and query optimization.

Equivalent to 354-443. P: CS-341.

CS-448 Software Engineering 3 cr.

Fall, Spring and Summer

Software development lifecycle, programming languages and environments, program testing, documentation, software management and organization. Class software development project. Equivalent to 354-448. P: CS-341.

**CTEM College of Technology,
Engineering and Management****CTEM-300 Introduction to Futures Study 2 cr.**

Fall Semester

Methods of future projection, orienting thought toward future alternatives; impact of future problems on major areas of human activity.

Equivalent to 100-500.

CTEM-390 Technical Service Schools .5-6 cr.

Summer Session

Some special-purpose technical courses offered by manufacturers are suitable for college credit. Guidelines: 1. Student makes all arrangements with manufacturer offering courses; 2. One credit is awarded for each full week (40 hours) of attendance; 3. Student enrolls and pays fees prior to taking course; 4. Approval of dean of school of industry and technology needed before enrolling for credit; 5. Graduate college approval required for students taking course for graduate credit. Equivalent to 100-590.

DES Design**DES-200 Design Theory and Methods 3 cr.**

Fall and Spring Semesters

A study and application of various techniques and theories of design to fundamental design problems. Equivalent to 304-300. P: ART-101, ART-103.

DES-205 Presentation Techniques 3 cr.

Fall and Spring Semesters

Experience in the various techniques of visually developing and presenting a design. Equivalent to 304-305. P: ART-100.

DES-210 Letter Form Design 3 cr.

Fall Semester

Design of letterforms, figures, and visual symbols; history and development of type; calligraphy; page composition for various formats and audiences.

Equivalent to 304-210. P: ART-100, ART-101.

DES-220 Computer Imagery 3 cr.

Fall, Spring and Summer

Digital aesthetics using digital technology: the creation of images and illustrations, in both hard copy and digital formats, using bitmap, modeling, rendering and multimedia programs.

Equivalent to 304-220. P: ART-101, ART-200, GCM-141.

DES-256 Art Workshop 1-3 cr.

Fall, Spring and Summer

Selected art concepts, processes and media will vary to serve special student populations. Credit determined by individual contract.

Equivalent to ART-256, 304-256.

DES-303 Interior Design 3 cr.

Fall and Spring Semesters

Design and development of interior spaces with a sensitivity to human interaction, materials, and furnishing.

Equivalent to 304-334, 304-204. P: ART-103, DES-205, AEC-131, AEC-233.

DES-304 Interior Design II 3 cr.

Fall and Spring Semesters

Design problems for interior spaces with emphasis on concepts, human interaction, and materials.

Equivalent to 304-205, 304-304. P: RD-205 or DES-303.

DES-308 Lighting Design in the Built Environment 3 cr.

Fall Semester

Exploration of lighting design as it affects aesthetic, color, and environmental perceptions. Ecological, practical, and qualitative aspects of lighting design.

Equivalent to DES-216. P: DES-303. \$

DES-310 Graphic Design I 3 cr.

Fall and Spring Semesters

Study and creation of visual images used to inform and/or persuade specific audiences. Equivalent to 304-310. P: ART-101, DES-210 or DES-330.

DES-314 Interior Specifications I 3 cr.

Fall Semester

An introduction to interior design methods, materials, procedures and specifications. Equivalent to 304-214, 304-532.

DES-320 Interior Furniture Design 3 cr.

Fall and Spring Semesters

Applied studio projects with structural, material, economic and aesthetic considerations in the design of contemporary furniture.

Equivalent to 304-320. P: DES-303 or DES-340.

DES-330 Industrial Design I 3 cr.

Fall and Spring Semesters

First course in the industrial design sequence providing an overview of design skills in their application to the resolution of product design problems.

Equivalent to 304-330. P: DES-200, DES-205 or RD-205.

DES-340 Industrial Design II 3 cr.

Fall and Spring Semesters

Increased understanding of design as applied to the resolution of complex product design. Equivalent to 304-340. P: DES-330.

DES-345 Product Form Design 3 cr.

Fall, Spring and Summer

Exploration of product forms through drawing and model-building techniques.

Equivalent to 304-335. P: DES-200, DES-205, DES-330, MFGT-103.

DES-360 Graphic Design II 3 cr.

Fall and Spring Semesters

Application of social, business and ethical factors affecting visual communication, while increasing sensitivity and experience in graphic design.

Equivalent to 304-360. P: DES-310; and DES-220 or DES-330.

DES-380 Signage and Exhibition Design 3 cr.

Summer Session

Organization and design of environmental graphics through the production of signage, display, and exhibition support systems.

Equivalent to 304-380. P: DES-205, DES-360.

DES-382 Information Design 3 cr.

Fall and Spring Semesters

Envisioning information through the design and production of charts, diagrams, maps, and other hierarchical graphics. Equivalent to 304-382. P: DES-360.

DES-384 Advertising Design 3 cr.

Fall and Spring Semesters

Graphic design principles and creative concepts as applied to advertising art.

Equivalent to 304-384. P: DES-205, DES-360.

DES-386 Publication Design 3 cr.

Fall and Spring Semesters

Graphic design principles as applied to the combination and coordination of art and typography with text. Equivalent to 304-386. P: DES-360.

DES-388 Typographic Design 3 cr.

Fall and Spring Semesters

Design of grid-based, hierarchical and expressive typographic structures; analysis of historical and theoretical precedents.

Equivalent to 304-388. P: DES-360.

DES-405 Advanced Presentation Techniques for Designers 3 cr.

Fall and Spring Semesters

Techniques and skills for presentation and communication of visual materials; advanced perspective, mixed-media rendering, transparent watercolor rendering, gouache rendering applied to presentation of product's interiors and exteriors. Equivalent to 304-405. P: DES-205.

DES-410 Product and Packaging Graphics 3 cr.

Design and application of graphics to products, packages, and related display systems. Equivalent to 304-410. P: DES-360.

DES-414 Interior Specifications II 3 cr.

Spring Semester and Summer Session

Advanced interior design specification and construction documentation, incorporating elements of current professional practice.

Equivalent to 304-314. P: DES-314.

DES-415 Environmental Interior Design I 3 cr.

Analysis and application of various office systems as they apply to and are a part of an architectural setting. Equivalent to 304-315, 304-415. P: DES-304.

DES-416 Environmental Interior Design II 4 cr.

Advanced interior design topics, with extensive projects, including all phases of current interior design professional practice and incorporation into student portfolio. Equivalent to 304-416. P: DES-415.

DES-430 Industrial Design III 4 cr.

Fall and Spring Semesters

Advanced design problems chosen by consultation between student and instructor. Equivalent to 304-430. P: DES-345, DES-340.

DES-431 Symposium in Interior Design 2 cr.

Fall and Spring Semesters

Exposure to and discussion of the practical working world of the interior designer. Equivalent to 304-431. P: DES-415.

DES-432 Industrial Design Portfolio 1 cr.

Fall and Spring Semesters

Role and actual development of an industrial designer's portfolio with emphasis on importance of the portfolio in communicating with prospective employers throughout the career. Equivalent to 304-432. P: DES-345.

DES-440 Industrial Design IV 4 cr.

Fall and Spring Semesters

Professional level of understanding and skill applied to advanced design problem chosen in consultation between student and instructor.

Equivalent to 304-440. P: DES-430.

DES-451 Interior Design Practicum 3 cr.

Fall and Spring Semesters

Work experience with an interior designer or in design-related field arranged with interior design work experience coordinator. Equivalent to 304-451. P: DES-303.

DES-456 Advanced Art Workshop 1-3 cr.

Selected art concepts, processes and media will vary to serve special student populations. For students familiar with workshop approach or advanced in art program. Credit determined by individual contract.

Equivalent to ART-456, 304-556. RS

DES-480 Senior Project – Graphic Design 4 cr.

Exploration of an advanced graphic design topic through an extensive project: research, production specification, and development of a presentation system. Instructor's consent required.

Equivalent to 304-480. P: DES-360; and DES-380 or DES-410.

ECON Economics**ECON-201 General Economics 3 cr.**

GESBSCI ECON Fall and Spring Semesters

Introduction to basic elements of economics; analysis of institutions, issues and policy; theories of price, national income and employment. Not open to students taking ECON-210 and ECON-215. Equivalent to ECON-210, 320-210, 320-201.

ECON-210 Principles of Economics I 3 cr.

GESBSCI ECON Fall, Spring and Summer

Tools of basic economic analysis including scarcity, cost, and demand and supply; macroeconomic issues such as economic growth, inflation, and unemployment; alternative macroeconomic theories; and fiscal and monetary policies. Equivalent to ECON-201, 320-210, 320-201.

ECON-215 Principles of Economics II 3 cr.

GESBSCI ECON Fall, Spring and Summer

Theory of individual economic behavior; price determination; market structures; labor, capital and natural resource markets; international economics; and current microeconomic topics. Equivalent to 320-215. P: ECON-210.

ECON-310 Women and Work 3 cr.

ESB

Issues pertaining to changes in women's roles in the paid labor force, including past and present participation, the female-male earnings gap, public policy, and employer response. Equivalent to 320-510.

ECON-325 Economic and Business Statistics 3 cr.

Fall and Spring Semesters

Method of collection, analysis, and presentation of economics, social, and business data. Ratios, frequency distributions, averages, variability, linear regression, correlation, time series analysis, and principles of index numbers. Equivalent to 320-325. P: MATH-118.

ECON-335 Personal Securities Investments 2 cr.

Major aspects of security investments: common and preferred stocks, bonds, mutual funds. Equivalent to 320-335. P: ECON-201 or ECON-210.

ECON-380 Business and Economic Forecasting 3 cr.

Survey of macroeconomic and microeconomic forecasting techniques, data collection and analysis. Equivalent to 320-380. P: ECON-201 or ECON-215; and ECON-325, STAT-130 or STAT-320.

ECON-410 Microeconomics 3 cr.

Fall and Spring Semesters

Value and distribution theory; analysis of demand-firm, industry and utility; pricing of production factors. Equivalent to 320-410. P: ECON-215.

ECON-415 Macroeconomics 3 cr.

Fall and Spring Semesters

Determination of aggregate income, employment, growth rates and price levels; monetary and fiscal policies necessary for full employment.

Equivalent to 320-415. P: ECON-215.

ECON-420 Labor Economics 3 cr.

Fall, Spring and Summer

Basic labor theory; history of organized labor in western industrial societies; collective bargaining as viewed by labor, management, government and public; institutions involved in modern labor relations.

Equivalent to 320-420. P: ECON-201 or ECON-210.

ECON-421 Collective Bargaining and Labor Relations 2 cr.

Fall, Spring and Summer

Introduction to collective bargaining in the U.S.; formation, substance and administration of a labor agreement, current labor law, role of National Labor Relations Board. Equivalent to 320-421. P: ECON-201 or ECON-210.

ECON-425 Economic Development 3 cr.

Social and economic factors underlying economic development. Capital formation, measurement of growth, population problems. Considers both theory and practical problems. Equivalent to 320-425. P: ECON-210.

ECON-435 Money, Banking, Financial Markets 3 cr.

Fall and Spring Semesters

Money and bank credit, modern monetary theories, monetary policy. Equivalent to 320-435. P: ECON-201 or ECON-210.

ECON-440 Principles of Investment 3 cr.

Spring Semester

Principles and techniques of investment for people in business; construction and management of security portfolios. Equivalent to 320-440.

ECON-445 Public Finance 3 cr.

Spring Semester

Public finance at all governmental levels; taxation, expenditures, debt management and fiscal policy. Equivalent to 320-445. P: ECON-201 or ECON-210.

ECON-470 Economic Model-Building and Forecasting 3 cr.

Quantitative models and methods applied to forecasting; regression techniques. Equivalent to 320-470. P: ECON-215, STAT-331 MATH-275.

ECON-480 International Economics 3 cr.

Fall and Spring Semesters

Survey of current issues such as changing world financial situations, international agreements and organizations, and other topics related to trade models, tariffs, exchange rates and balance of payments. Equivalent to 320-680. P: ECON-210.

EDUC Education**EDUC-280 Reading Improvement 1-2 cr.**

Skill instruction in reading study skills. Application of skills to student's textbooks and materials. Equivalent to TRDIS-120, 421-280.

EDUC-303 Educational Psychology 3 cr.

Fall, Spring and Summer

Introduction to the psychological aspects of the educative processes. Emphasis on application of basic psychological principles to teaching. Focus on learner, learning process, and the teacher as an agent for change. Minimum cumulative GPA of 2.75. Education majors must have passed PPST.

Equivalent to 421-303, 421-303A, 479-303. P: PSYC-110.

EDUC-305 Teaching Practicum 2 cr.

Fall, Spring and Summer

Practical experience in developing the prospective teacher's ability in specific well defined teaching skills. Equivalent to 421-305. P: EDUC-307.

EDUC-307 Applied Human Relations 2 cr.

ESC Fall, Spring and Summer

An experiential course focusing on major themes affecting human relations. Equivalent to 421-205, 421-507.

EDUC-310 Field Experience – Tutoring 1 cr.

Fall, Spring and Summer

Supervised one-on-one or small group teaching experience in a school or other educational setting in response to the special needs of students with learning difficulties. Emphasis is on precision teaching, individualized instruction, and alternative strategies. Equivalent to 421-310.

EDUC-312 Introduction to Curriculum, Methods, and Assessment 2 cr.

Fall and Spring Semesters

Principles and practices of curriculum development, instructional methods, and measures of assessment of learning; including issues of and approaches to curriculum and curriculum development; methods of effective teaching; purposes, methods, and measures of assessment. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 421-312.

EDUC-326 Foundations of Education 2 cr.

Fall, Spring and Summer

Historical background, status, trends, and organization of U.S. education; understandings vital to students before they begin student teaching. Includes professional roles, expectations, rewards and frustrations, resources, control, finance and philosophy. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 421-326.

EDUC-336 Multiculturalism: Issues and Perspectives 2 cr.

ESA Fall, Spring and Summer

Intensive study of diversity in U.S. schools. Examination of the educational needs of students from various ethnic, cultural, religious, language and social class groups. Discussion of issues related to racism, sexism and oppression. Minimum cumulative GPA of 2.75. Education majors must have passed PPST.

Equivalent to 421-536, 421-536A.

EDUC-376 Field Experience: Cross-Cultural Experience 1 cr.

Fall, Spring and Summer

Supervised one-on-one or small group experience in a school or other setting in response to a special academic or social need with representatives of one or more of the following designated ethnic minority groups — African-Americans, Asian-Americans, Pacific Islander-Americans, American Indians and Hispanic-Americans; and various socio-economic groups, specifically the low-income. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 421-576.

EDUC-380 Reading and Language Arts in Elementary Education 3 cr.

Fall, Spring and Summer

Current philosophies in reading and language arts education, the centrality of language arts to the elementary curriculum and methodologies for the elementary classroom. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 421-580. Corequisite: EDUC-381.

EDUC-381 Preclinical: Elementary Education Language Arts and Reading 1 cr.

Fall, Spring and Summer

Supervised teaching experience in developing the prospective teacher's ability in elementary education language arts and reading skills. Minimum cumulative GPA of 2.75. Education majors must have passed PPST.

Equivalent to 421-581. P: EDUC-380.

EDUC-382 Secondary Reading and Language Development 2 cr.

Fall, Spring and Summer

Effective utilization of reading and language development methodologies in secondary content area classrooms. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 421-582. P: EDUC-303.

EDUC-400 Workshop: Special Topics in Education 1 cr.

Current specialized topics studied through experimental activities. R

EDUC-430 Ojibwe Lifeways 4 cr.

ESA Summer Session

Indepth, interactive study of Ojibwe culture within a Wisconsin reservation community. Equivalent to 421-630. S

EDUC-495 Personal Learning Experience 2 cr.

An experimental program for juniors and seniors. By permission of program directors. Each student selects an area of life which involves ethical decision and investigates that decision-making process. The group enrolled for this experience meets with the directors twice a week for direction, discussion, and criticism. Self-evaluation paper at the close of the course, which is submitted to the critique of the directors and other members of the learning experience.

Equivalent to 421-495.

ELEC Electricity/Electronics**ELEC-204 Electricity/Electronics Fundamentals 3 cr.**

Fall, Spring and Summer

Electricity/electronics, associated phenomena related to basic electrical and electronics systems. Examines devices, operation, application, theory from power devices to electronic devices, controls to microprocessors.

Equivalent to 110-204, 184-204. P: MATH-120.

ELEC-260 Electrical Circuits 3 cr.

Fall and Spring Semesters

Concepts and analysis techniques in DC and AC circuit analysis including current, voltage, resistance, capacitance, inductance, impedance, loop and node equations, transients, network theorems, real, reactive and apparent power in AC circuits.

Equivalent to 184-260, 110-270, 184-270, 184-260. P: PHYS-211 MATH-153.

ELEC-271 Digital Logic and Switching 3 cr.

Fall, Spring and Summer

Analysis and synthesis of combinational and sequential switching circuits. Boolean algebra and number systems, switching functions, minimization, single and multiple output networks, realization of functions, programmable logic devices. Finite state sequential machines, state transition diagrams, machines and state equivalence. Algorithmic state machines and asynchronous state machines. Equivalent to 110-473, 184-271, 184-473, 184-271. P: ELEC-260.

ELEC-272 Solid State Electronics 3 cr.

Fall and Spring Semesters

Basic semiconductor theory dealing with signals, operational amplifiers, diodes, bipolar junction and field effect transistor, frequency response, feedback, and circuit analysis. Equivalent to 184-272, 184-371, 110-371.

ELEC-274 Fundamentals of Microprocessors and Microcomputer Systems 3 cr.

Fall and Spring Semesters

Concepts of microprocessors, microcomputer architecture, assembly language programming and peripheral components. Hardware topics include 80 x 86 processors, interrupts, bios, serial and parallel interfaces, video displays, hard drives, CD ROMS, memory devices and local and peripheral buses.

Equivalent to 184-274, 184-551, 110-551. P: ELEC-271, CS-144.

ELEC-280 Networks 4 cr.

Networks based on differential equations. Classical and Laplace transform solution of network equations, complex impedance, introduction to state variable theory, two-port parameters. Frequency response techniques including Fourier series and Fourier transforms. Equivalent to 110-280, 184-280.

ELEC-281 Circuit Devices and Logic 3 cr.

Fall and Spring Semesters

DC and AC circuit analysis in transient and steady state conditions. Introduction to computer aided analysis of circuits, devices and logic. Basic digital and analog circuitry including gates, sequential logic and amplifiers.

P: MATH-153, PHYS-241.

ELEC-290 Circuits and Devices 4 cr.

Spring Semester

Electrical and electronic circuits and devices. Analysis of circuits containing passive and active components. Analog and digital circuitry including amplifiers and logic gates. Power calculations in alternating current circuits. Electromechanical energy conversion including DC and AC machinery. Lab activities include use of base test equipment and the construction of simple electronic circuits. Equivalent to 184-290. P: MATH-154 PHYS-282.

ELEC-340 Motors and Generators 2 cr.

Fall and Spring Semesters

Practical approach to basic operating theory, construction, maintenance of generators, motors, transformers, and machine control.

Equivalent to ELEC-348, 110-348, 184-348. P: ELEC-204.

ELEC-342 Computer Applications in Electronics 3 cr.

Microprocessor application at a system level. Use of hardware and software design aids such as assemblers, text editors, compilers, read only memory emulators and system projects related to specific microprocessors. Introduction to the 16-bit microprocessors, 8-bit slice processors, signal processors and controllers. Equivalent to 110-542, 184-542.

ELEC-352 Microcomputer/Microprocessor Concepts 3 cr.

Fall and Spring Semesters

Basic concepts underlying programmable devices. An integrated treatment of microprocessor/microcomputer in both hardware and software. Assembly language programming, peripheral and memory interfacing concepts.

P: ELEC-281.

ELEC-353 Instrumentation and Control 3 cr.

Spring Semester

Industrial measurement, control, open loop, closed loop, analog, digital, electric/electronic, fluidic, mechanical, pneumatic.

Equivalent to 110-553, 184-553.

ELEC-374 Microprocessor Fundamentals 3 cr.

Overview of present day microprocessor technology. Function, analysis and operation of selected microprocessors. Memory, input-output interfacing devices. Basic machine/assembly and structured language programming and hardware application. Equivalent to 110-574, 184-574.

ELEC-375 Microprocessor Interfacing 3 cr.

Interfacing principles of microprocessor based microcomputer systems. Input-output techniques, input-output mapping, asynchronous-synchronous communication, parallel-serial conversion. Microprocessor application such as control systems, energy monitor, cooking and communications.

Equivalent to 110-575, 184-575.

ELEC-382 Electronic Communications 3 cr.

Fall and Spring Semesters

Electrical/electronic communication systems, modulation, demodulation, R.F. and I.F. amplifiers, alignment, antennas, composite TV signal, receivers, transmitters, spectral representation of signals, amplitude modulation, AM/FM transmitters, side band transmission, AM/FM receivers, and frequency modulation. Equivalent to 184-382, 184-552, 110-552. P: ELEC-272.

ELEC-383 Fundamentals of Control 4 cr.

Analysis of elementary control systems via classical and Laplace transform techniques, frequency response and root locus plots, block diagrams and transfer functions, open and closed loop systems, stability considerations, digital to analog conversion, microprocessor based control systems.

Equivalent to 110-583, 184-583. P: ELEC-280 ELEC-374.

ELEC-386 Instrumentation 3 cr.

Descriptive and analysis of thermal, mechanical, acoustic, optical, pneumatic and electromagnetic sensors, measuring systems, calibration, performance of measuring systems, analog and digital signal conditioning. Measurement of frequency and time, and analysis and performance of display units.

Equivalent to 110-586, 184-586.

ELEC-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Equivalent to ELEC-349, 184-349, 184-595. R

ELEC-445 Automation and Control Application 3 cr.

Theoretical and practical concepts behind control system elements and operations. Programmable logic controllers, ladder logic development. Input and output devices, description and interfacing. P: ELEC-352.

ELEC-474 Digital Electronics 3 cr.

Fall, Spring and Summer

Junction and field effect transistors as switches, basic digital and switching circuits, bipolar and Mosfet logic families, digital integrated circuit schemes and building blocks, multivibrators, memory elements, digital to analog and analog to digital converters. Equivalent to 110-474, 184-474.

ELEC-482 Electronic Communication Fundamentals 3 cr.

Investigation of amplitude modulation, frequency modulation, single-side band and pulse modulation electronic communication systems. Theory of modulation and demodulation, noise and a study of transmitter and receiver configurations. Equivalent to 110-482, 184-482.

ELEC-483 Digital Communication 3 cr.

Fall and Spring Semesters

Theory, practice and design problems. Techniques as applied to digital communication, networking, switching, radio and satellite networks.

Equivalent to 184-483. P: ELEC-382, TCS-381.

ENGL English**ENGL-090 Writing Workshop 3 cr.**

Fall and Spring Semesters

Remedial writing course providing individual instruction to meet basic competencies for entry into 326-101, Freshmen English – Composition. Will not count toward graduation. Equivalent to 326-090.

ENGL-101 Freshman English – Composition 3 cr.

GECOMSK WRIT Fall, Spring and Summer

Principles and practices of writing; documented paper. Placement test required. Equivalent to 326-101, 326-102A.

ENGL-102 Freshman English – Reading and Related Writing 3 cr.

GECOMSK RDG

Fall, Spring and Summer

Readings focused on a theme reflected in literature. Topics and approaches developed by each instructor; opportunity for responsible, independent study; requires intensive practice in composition. Equivalent to 326-102, 326-102, 326-102B. P: ENGL-101 or ENGL-111.

ENGL-111 Freshman English – Honors I 3 cr.

GECOMSK WRIT

Fall and Spring Semesters

Readings in world literature and related writing for training in composition techniques; documented paper. Placement Test Required.

Equivalent to 326-111.

ENGL-112 Freshman English – Honors II 3 cr.

GECOMSK RDG Fall and Spring Semesters

Continuation of ENGL-111. Equivalent to ENGL-113, 326-113, 326-112. P: take ENGL-101 or ENGL-111.

ENGL-113 Honors Seminar I 3 cr.

GECOMSK WRIT Fall and Spring Semesters

Intensive reading and writing that examines topics in world literature from Shakespeare to the present.

Equivalent to ENGL-112, 326-113, 326-112. P: ENGL-101 or ENGL-111.

ENGL-207 Writing For the Media 3 cr.

Fall Semester

Theory and practice of writing for the media.

Equivalent to 326-307. P: ENGL-102 ENGL-112 or ENGL-113.

ENGL-210 Journalism Practicum 1 cr.

Fall and Spring Semesters

Work on regularly published newspaper and submit articles for evaluation and publication. Equivalent to 326-310. P: ENGL-102 ENGL-112 or ENGL-113. R

ENGL-218 Mass Communication:**Effects of the Technology on Society 3 cr.**

GETECH Fall Semester

The ideological and social implications of mass communication technology. Equivalent to 326-518, 326-318, ENGL-318. P: ENGL-101.

ENGL-225 Copyediting and Preparation 3 cr.

Spring Semester

Develop skill in expanding and reducing written materials; experience in copy reading, proofreading, headlines.

Equivalent to ENGL-325, 326-425. P: ENGL-102, ENGL-112 or ENGL-113.

ENGL-245 Creative Writing 3 cr.

GEHUM CRPRF Fall and Spring Semesters

All aspects of imaginative writing.

Equivalent to 326-345. P: take ENGL-102, ENGL-112 or ENGL-113. R

ENGL-246 Informational Writing 3 cr.

GECOMSK WRIT Fall and Spring Semesters

Writing for service organizations, education, the helping professions, the humanities and social sciences.

Equivalent to 326-346. P: ENGL-102, ENGL-112 or ENGL-113.

ENGL-247 Critical Writing 3 cr.

GECOMSK WRIT Fall and Spring Semesters

The art of evaluation and judgment; writing critical reviews and articles; documented critical paper.

Equivalent to 326-347. P: ENGL-102, ENGL-112 or ENGL-113.

ENGL-320 Business Writing 3 cr.

Fall and Spring Semesters

Effective techniques for writing persuasively in business communications: requests, cordial contact, sales and education and training programs.

Equivalent to 326-320. P: ENGL-102, ENGL-112 or ENGL-113.

ENGL-340 The Structure of English 3 cr.

New analytic and descriptive methods applied to modern English.

Equivalent to 326-340. P: ENGL-102, ENGL-112 or ENGL-113.

ENGL-343 Rhetoric of Technology 3 cr.**GETECH** Fall and Spring Semesters

Study of the way in which published information influences the development and dissemination of technology.

Equivalent to 326-343. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-346 Research Reporting 3 cr.**

Fall Semester

Effective organization and presentation of individual research.

Equivalent to 326-546. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-356 Creative Writing Workshop 3 cr.****GEHUM CRPRF** Fall, Spring and Summer

Writing and group critiquing in a specified genre.

Equivalent to 326-356. **P:** ENGL-245. **R****ENGL-361 Hypertext Writing 3 cr.**

Fall and Spring Semesters

Investigate writer and audience interaction in a hypertext environment. Gain exposure to and utilize markup languages to maximize audience participation in websites and other hypertext documents. Research, production and testing of an original website and hypertext essays.

P: ENGL-102, ENGL-112 or ENGL-113.**ENGL-371 Advanced Rhetoric 3 cr.**

Fall, Spring and Summer

The evolution of rhetoric and application of classical and contemporary rhetorical principles to contemporary rhetorical problems, technical as well as traditional.

P: ENGL-102, ENGL-112 or ENGL-113.**ENGL-388 Writing Multimedia 3 cr.**

Fall, Spring and Summer

Writer and audience roles in planning and creating multimedia documents containing text, movie clips, sound clips, and still images. Develop proficiency in hardware and software of multimedia creation by researching, producing and testing original project. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-401 Juvenile Fiction Seminar 1-3 cr.**

Children's literature, emphasizing the picture book. Methods of selecting and reading picture books of all types with critical examination. Literary, historical and social implications of picture books. Senior level or higher.

Equivalent to 326-601. **P:** LIT-300.**ENGL-407 Teaching English in the Secondary and Middle School 2 cr.**

Fall, Spring and Summer

Methods for teaching English in the secondary and middle schools.

Equivalent to 326-407. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-415 Technical Writing 3 cr.**

Fall, Spring and Summer

On-the-job writing for business and industry; reports, letters and other documents. Equivalent to 326-515. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-418 Writing on Issues 1 cr.****GECOMSK WRIT** Fall, Spring and SummerAdvanced writing skills developed through reading, thinking, and writing about major issues. Equivalent to 326-418. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-435 Writing Technical Manuals 3 cr.**

Fall, Spring and Summer

Production of a technical manual-planning procedure, collecting information, analyzing audience, writing and field testing.

Equivalent to 326-535. **P:** ENGL-102, ENGL-112 or ENGL-113.**ENGL-437 Technical Writing Practicum 1-3 cr.**

Fall, Spring and Summer

Plan, write and produce a technical document for a client. Principles of document design, clear writing for a specific audience, methods of determining client needs, and methods of producing the final document.

Equivalent to 326-537. **P:** ENGL-415. **R****ENGL-438 Writing Practicum For Early Childhood Education 1 cr.**

Creation of professional letters, newsletters, and other written documents for future early childhood educators. Early Childhood majors only.

P: ENGL-102, ENGL-112 or ENGL-113.**ENGL-471 Freelancing/Professional Writing 3 cr.**

Fall, Spring and Summer

Working for clients, setting rates and estimating costs, investigating and contacting markets, contacting and interacting with editors, handling taxes and insurance, copyright, intellectual property, job search for freelance or corporate jobs. **P:** ENGL-102, ENGL-112 or ENGL-113.**FCSE Family and Consumer Sciences Education****FCSE-101 Experiential Learning 2 cr.**

Fall Semester

Contribution of Family and Consumer Sciences to development of individuals and families; responsibilities of a Family and Consumer Sciences professional.

Equivalent to 242-101.

**FCSE-201 Presentation Strategies
for Family and Consumer Sciences 2 cr.****ESC** Fall and Spring Semesters

Study of presentation strategies appropriate in the field of family and consumer sciences. Equivalent to 242-201.

FCSE-240 Clinical Experience in Microteaching 1 cr.

Fall and Spring Semesters

Microlessons with microclasses will be videotaped and reviewed for self-evaluation and critique with instructor. Equivalent to 242-240.

FCSE-241 Clinical Experiences in the Community 1 cr.

Fall and Spring Semesters

Plan and implement family and consumer sciences learning experiences for children and adults in community programs. Equivalent to 242-241. **R****FCSE-300 Internship: Family and
Consumer Sciences Community Education 4-8 cr.**

Fall and Spring Semesters

Practicum in one or more of the following family and consumer sciences education programs: extension services, elementary education, post-secondary education, occupational teaching experience and community educational services. Approval of graduate program director required if taken for graduate credit. Consent of Program Director. Equivalent to 242-500.

FCSE-301 Family and Consumer Sciences Education Curriculum 3 cr.

Fall and Spring Semesters

Development of curriculum to meet needs of students in family and consumer sciences education programs. Junior level or higher. Equivalent to 242-301.

FCSE-303 Family and Consumer Sciences Education in the Middle and Elementary Schools 3 cr.

Spring Semester

Develop techniques, materials and curriculum concepts in family and consumer sciences education with application of human growth and development principles for teaching in middle and elementary school. Equivalent to 242-503.

FCSE-320 Vocational Programs in**Family and Consumer Sciences Education 2 cr.**

Fall and Spring Semesters

Techniques, materials and curriculum for family and consumer sciences education wage-earning programs in secondary and post-secondary schools, preliminary procedures for program development.

Equivalent to 242-320A, 242-620.

FCSE-341 Clinical Experience in Schools 1 cr.

Fall and Spring Semesters

Supervised experience in classroom teaching for development of motor, perceptual, social and cognitive learning through family and consumer sciences education substantive areas. Junior level or higher. Equivalent to 242-341. R

FCSE-344 Future Homemakers of America Workshop 1-2 cr.

Summer Session

Integration of Future Homemakers of America and the Home Economics Related Occupations student organizations into the family and consumer science education classroom. Equivalent to 242-544.

FCSE-360 Family and Consumer Sciences Education/Family Life Evaluation 2 cr.

Develop evaluation for family and consumer science education subject matter and critical thinking skills. Not applicable to occupational certification.

Equivalent to 242-360, 242-460. P: FCSE-301.

FCSE-397 Field Experience in Family and Consumer Sciences Education 2 cr.

Fall, Spring and Summer

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level.

Equivalent to FCSE-497, 242-597.

FCSE-448 Student Teaching – Family and Consumer Sciences Education 16 cr.

Fall and Spring Semesters

Student teaching practicum in K-12 settings in family and consumer sciences education/family life. Consent of Program Director. Minimum cumulative GPA of 2.75. Equivalent to 242-448. P: FCSE-301, FCSE-360.

FCSE-451 Family Life Education Programs 2 cr.

Fall and Spring Semesters

Development of family life education programs including methods, materials and techniques for teaching family relationships and child development at the secondary level. Equivalent to 242-651, 242-451.

FCSE-488 Internship Teaching 8 cr.

Fall and Spring Semesters

Alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one semester. Equivalent to 242-488. P: FCSE-301.

FCSE-497 Field Experience in Family and Consumer Sciences Education 2 cr.

Field experience related to family and consumer sciences education skills and knowledge used in teaching wage-earning courses at secondary level. Equivalent to FCSE-397, 242-597.

FN Food and Nutrition**FN-101 Dietetics as a Profession 1 cr.**

Fall Semester

Survey of types of dietetic and foodservice administration programs in the United States; role and function of staff; professional literature. Equivalent to 229-101.

FN-102 Nutrition for Healthy Living 2-3 cr.

GEHPE HLTH Fall and Spring Semesters

Food selection and eating patterns/standards, applied nutrition knowledge and interrelationships, nutrition information source analysis, weight management, the nutrition-exercise-fitness connection. Analysis of personal lifestyle and food patterns in relationship to optimal physical and mental well being.

Equivalent to FN-106, 229-202, 229-206.

FN-106 Nutrition in the Hospitality Industry 2 cr.

Fall and Spring Semesters

Basic principles with application to the hospitality industry. Basic physiological nutrition; cultural and psychological influences on food preference. Interpretation of nutrition information, food composition data, and discussion of appropriate products and services. Nutrition analysis and programming on and off the computer will be stressed. Not appropriate for students with credit in FN-202 or FN-212. Equivalent to FN-102, 229-202, 229-206, 229-212, FN-212.

FN-111 Food Systems and Technology Futures 1 cr.

Fall Semester

Introduction to food systems and technology with emphasis on trends, career opportunities and competencies required for success in the concentration areas of food systems management, food science, food merchandising and distribution and food communication. Equivalent to 229-111.

FN-124 Foods 4 cr.

Fall and Spring Semesters

Scientific principles and application in the selection, preparation and service of food. Equivalent to 229-124.

FN-202 Food and Beverage Distribution Industry 3 cr.

An introductory course for students in the field of food and beverage merchandising and distribution. A study of history, evolution, classification, manufacture/production, packaging, distribution, and merchandising with an emphasis on trends and employment. Resource persons from industry and field trips will be utilized. Equivalent to 229-302.

FN-207 Medical Terminology 1 cr.

Fall and Spring Semesters

Medical terminology for allied health occupations. Self-paced instruction utilizing a word-building system to learn word parts used to construct or analyze new terms. Emphasis on spelling, definition, usage and pronunciation.

Equivalent to 229-407.

FN-208 Management of Food Production 3 cr.

Fall, Spring and Summer

Development and application of management principles to decision making in small batch food production which is based on menu driven concepts. Equivalent to 229-308.

P: FN-124 or FN-240, and FN-212.

FN-212 Nutrition 3 cr.

Fall and Spring Semesters

Basic principles of nutrition applied to current issues in health maintenance. Equivalent to 229-136, 229-212, 229-206, FN-106. P: BIO-132 or BIO-134, and CHEM-115 or CHEM-125.

FN-220 Outdoor Cooking 1 cr.

Food preparation principles in cooking and serving outdoors; equipment for outdoor food preparation; foods for camping, backpacking and canoe camping; preparing wild game and gathering and preparing wild foods.

Equivalent to 229-220.

FN-225 Special Topics in Food and Nutrition 1-2 cr.

Summer Session

Study of special topics in food and nutrition. Equivalent to 229-225. RS

FN-236 Nutrition For Young Children 1-2 cr.

Fall, Spring and Summer

Impact of nutrition on growth, development and health of young children. Assessment of nutritional status, changing needs and eating patterns, the link between nutrition, dietary practices, and behavior, and translating current nutrition information into effective nutrition education strategies for children. Equivalent to 229-136, 229-236. P: FN-102, FN-106.

FN-240 Food Science 4 cr.

Fall and Spring Semesters

Physical and chemical changes affecting selection, preparation and service of food. Equivalent to 229-240. P: CHEM-201.

FN-260 Menu Planning and Design 2 cr.

Principles of menu planning, design and production for commercial and institutional food establishments. Equivalent to 229-260.

FN-305 Baking Processes: Pastry and Pasta 1 cr.

Equivalent to 229-305.

FN-305A Baking Processes 1 cr.

Equivalent to 229-305A. \$

FN-310 Lifespan Nutrition 3 cr.

Nutrition concepts and concerns associated with each lifespan stage; integration of social, psychological, cultural, economic, and legislative factors to develop issue-centered approaches to meet nutrition needs.

Equivalent to 229-530. P: FN-102 or FN-106, and one BIO course.

FN-312 Nutritional Assessment 2 cr.

Fall, Spring and Summer

Introduction to basic components of nutritional assessment as applied to individuals. P: FN-212, CHEM-311.

FN-320 Advanced Nutrition 3 cr.

Fall and Spring Semesters

Principles of human nutrition applied to individual, family, community and world problems. Equivalent to 229-410, 229-520. P: FN-212, CHEM-311.

FN-325 Trends in Nutrition 2 cr.

Students gain baseline knowledge on grant-writing skills for health care professions and develop expertise in selection of appropriate funding sources. R

FN-325 Special Topics in Food and Nutrition 1-3 cr.

Fall Semester

Study of special topics in food and nutrition. Equivalent to 229-225. R

FN-342 Advanced Foods 3 cr.

Fall Semester

Comparative studies of food selection and preparation; appraisal of foods. Equivalent to 229-542, 229-642. P: FN-124 or FN-240.

FN-346 Food Preservation 1 cr.

Principles and practical application of methods of food preservation and storage. Equivalent to 229-446.

FN-350 Food Processing 3 cr.

Spring Semester

Industrial methods used to prepare and preserve food. Equivalent to 229-650. P: FN-124 or FN-240; MATH-120, BIO-306; CHEM-115, CHEM-125 or CHEM-135.

FN-355 Sports Nutrition 3 cr.

Nutritional and metabolic requirements of physical activity. Metabolic fuel utilization during exercise and physiological adaptations to exercise training will be discussed. The health and well-being benefits of an optimal diet-exercise regime will be emphasized.

Equivalent to 229-555. P: FN-320, CHEM-311, and BIO-132 or BIO-134.

FN-360 Nutrition Counseling: A Team Approach 3 cr.

Interdisciplinary team approach to individual and group client-centered nutrition counseling which includes assisting and advising clients on dietary information. Skills and techniques based on nutrition counseling theories that are most useful to registered dietitians in enhancing quality of life and planned nutrition intervention. Equivalent to 229-360. P: FN-212.

FN-380 Community Nutrition 3 cr.

Fall and Spring Semesters

Current status and legislation of community nutrition programs. Assessment of community needs and resources, program planning, funding, and evaluation. The role of the community nutritionist/home economist to help individuals, families, and communities solve nutrition problems.

Equivalent to 229-380. P: FN-212.

FN-397 Field Experience 2 cr.

Equivalent to 229-397.

FN-397C Field Experience (Seminar): Dietetics 1-2 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option. Equivalent to 229-397C.

FN-397E Field Experience: Dietetics 1 cr.

Field experience related to the dietetic areas. Prior approval of field position, 320 hours of work experience, and seminar. Written reports required for two-credit option. Equivalent to 229-397E.

FN-405 Nutrition for the Aged 2 cr.

Spring Semester

Nutrient requirements and food consumption patterns of the elderly; food services for aging Americans. Equivalent to 229-505. P: FN-212.

FN-406 Nutrition Education 3 cr.

Fall and Spring Semesters

Nutrition education as planned behavioral change: problems and solutions in instructing various populations; identification, development and evaluation of nutrition resources. Equivalent to 229-606. P: FN-320, FCSE-201.

FN-410 Food and Nutrition Policy Regulation and Law 3 cr.

Food and nutrition policy development and evolution. Key acts and agencies governing food regulation and law. Process of creating or changing law. Compliance and enforcement rules in inspection, labeling, export and import. Administrative practice in food law including proceedings and judicial review. Equivalent to 229-610.

FN-412 Clinical Experience – Community Nutrition Programs 1 cr.

Fall and Spring Semesters

Practical experience with community nutrition program; basic nutrition program or food service operation and nutrition education activity.

Equivalent to 229-612. P: FN-380 FN-406.

FN-413 Maternal and Child Nutrition 3 cr.

Fall Semester

Application of principles to maternal, infant, child and adolescent nutrition.

Equivalent to 229-633. P: FN-212; and BIO-132 or BIO-134.

FN-414 Catering 3 cr.

Theory and application of operational and managerial principles for on/off-premise catering for special events. (Cannot be taken for credit by students who have previously taken HT-424.) Equivalent to 229-614. P: FN-124 or FN-240.

FN-415 Nutritional Issues in Gerontology 3 cr.

Theory and relationships of nutrition, longevity and aging. Food and nutrition legislation for the elderly—theory and implementation. Nutritional implications of acute and chronic disease states common among the elderly.

P: FN-320, CHEM-311.

FN-418 Diet Therapy 4 cr.

Fall and Spring Semesters

Principles and methods for use of diet as therapy in certain pathological conditions. Equivalent to 229-618. P: FN-320, BIO-362.

FN-420 Food Styling 1-3 cr.

Fall Semester and Summer Session

Food as media for artistic expression; effective use of color, form and texture.

Equivalent to 229-620. P: FN-124 or FN-240. R

FN-431 Readings in Food Science and Nutrition 1-2 cr.

Critical reading, evaluating, and reporting from pertinent current journals and other publications. Equivalent to 229-631. R

FN-438 Experimental Foods 3 cr.

Fall and Spring Semesters

Experimentation with selected food materials, techniques and equipment; directed study in individually chosen area. Equivalent to 229-638. P: FN-124 or FN-240; and CHEM-115, CHEM-125 or CHEM-135.

FN-442 Basic Sensory Analysis 3 cr.

Spring Semester

Basic understanding of the psychobiology and physiology of senses and the role both play in consumer product acceptance. Basic tests of sensory analysis, including both objective trained panel difference tests and subjective preference/acceptance tests. Appropriate for all majors who produce products for or merchandise to consumers. Equivalent to 229-442. P: FN-124 or FN-240.

FN-450 Food Engineering 3 cr.

Fall Semester

Application of pertinent chemistry, physics and mathematics principles to food processing.

Equivalent to 229-651. P: CHEM-201, MATH-153, MATH-154, FN-350.

FN-461 Multicultural Aspects of Food and Nutrition Patterns 3 cr.

ESC

Food and nutrition patterns as influenced by social, religious, geographical, economic and political factors. Cultures emphasized include Native American, African American, Hispanic and Asian American. Food as a means of cross-cultural communication. Equivalent to 229-661. P: FN-124 or FN-240.

FN-470 Food Distribution Operations and Control 3 cr.

Current trends and management strategies in the distribution of food and beverages, from manufacturer to consumer.

Equivalent to 229-570, 229-370. P: FN-202, BUMKG-330.

FN-497C Field Experience: Food Systems and Technology 1 cr.

Seminar: analysis, interpretation and synthesis of food systems and technology principles through a written paper and oral seminars following 320 hours of field work in an approved position. Integrates synergistic principles/activities from program courses and among concentrations. Equivalent to 229-497C.

FN-497E Field Experience: Food Systems and Technology 1 cr.

Food systems and technology area field experience. Approved field position, 320 hours of work experience, and development of concept/outline for written analysis paper. Equivalent to 229-497E.

FREN French**FREN-101 Elementary French I 4 cr.**

GECOMSK LANG Fall Semester

Listening, pronunciation, reading, and writing. Basic vocabulary, polite phrases, questions and answers. Adjective agreement, present and some past-tense verbs. Cultural information about the French-speaking world.

Equivalent to FREN-122, 328-122, 328-101.

FREN-102 Elementary French II 4 cr.

GECOMSK LANG Spring Semester

Second level of understanding, speaking, reading, and writing in French. Introduction to future, conditional, imperfect and subjunctive verbs. Direct and indirect object pronouns. Short spontaneous and directed conversations. Topics in cultures of French-speaking people. One year of high school French or FREN-101 required. Equivalent to 328-102.

FREN-121 Practical French I 2 cr.

Fall and Spring Semesters

First quarter college French. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. Not for students who have taken FREN-101. Equivalent to 328-121.

FREN-122 Practical French II 2 cr.

GECOMSK LANG Fall and Spring Semesters

Second quarter college French, conversational phrases and vocabulary, irregular and past tense verb patterns. (*Not appropriate for students who have completed FREN-101, 328-101.*) One year of high school French or FREN-121 required. Equivalent to FREN-101, 328-122, 328-101.

FREN-201 Intermediate French I 4 cr.

GEHUM FLC Fall Semester

Vocabulary development through readings and discussion on French and Francophone civilization. History, art, music, short stories and poems, including contemporary culture. Taught in French. Two years of high school French or FREN-102 required. Equivalent to 328-201.

FREN-202 Intermediate French II 4 cr.

GECOMSK LANG Spring Semester

Grammar review, contemporary vocabulary, free conversation in French. Three years of high school French or FREN-201 required. Equivalent to 328-202.

GCM Graphic Communications Management**GCM-101 Introduction to Graphic Communications Management 1 cr.**

Fall and Spring Semesters

Introduction to graphic communications management trends, opportunities, and technologies in the graphic communications industry. Instructor's consent required. Graphic Communications Management majors only.

Equivalent to 130-101.

GCM-141 Graphic Communications and Electronic Publishing 3 cr.

Fall, Spring and Summer

Electronic publishing and imaging technology for producers and users of print media. Production workflow from design through delivery including creation and correct handling of digital prepress files. Equivalent to 130-141, 130-140.

GCM-151 Electronic and Conventional Prepress 3 cr.

Fall, Spring and Summer

Photomechanical and digital prepress processes for print reproduction. Camera and contacting techniques and electronic prepress methods for capture, manipulation, proofing, and assembly of images.

Equivalent to 130-151. P: GCM-141.

GCM-266 Press Systems 4 cr.

Fall and Spring Semesters

Imaging paper and other substrates by offset lithography, flexography, gravure and screen printing including conventional and electronic image assembly, proofing and platemaking. Equivalent to 130-266. P: GCM-141.

GCM-270 Postpress Operations and Distribution 3 cr.

Fall and Spring Semesters

Current and emerging technologies for binding, finishing and distributing various printed materials. Equivalent to 130-270. P: GCM-141.

GCM-297 Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 130-297. R

GCM-298 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 130-298.

GCM-300 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in graphic communications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 130-500. R

GCM-356 Color Electronic Prepress 3 cr.

Fall, Spring and Summer

Electronic capture, manipulation, and evaluation of color images for presentations and print production. Work flow, system, and file management issues faced in complex page layout.

Equivalent to 130-356. P: GCM-141; and GCM-151 or DES-220.

GCM-362 Screen and Specialty Print Manufacturing 3 cr.

Fall Semester and Summer Session

Applications and techniques for screen and specialty printing on a variety of substrates. Issues and process-control concerns related to these image transfer methods. Equivalent to 130-562, 130-561. P: GCM-141. \$

GCM-363 Package Printing 3 cr.

Fall and Spring Semesters

Production of graphics on cartons, labels, and flexible packages. Present and future technological trends in packaging and printing, with an emphasis on flexography, rotogravure, and other processes for full color reproduction.

Equivalent to 130-563, 130-263. P: GCM-141. \$

GCM-367 Reproduction Measurement and Control 3 cr.

Fall and Spring Semesters

Integration of math, physics and chemistry concepts with measurement and statistical process control methods to appraise, control, and improve color reproduction. Equivalent to 130-367. P: GCM-266, STAT-130 or STAT-320. R

GCM-397 Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 130-397. R

GCM-398 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 130-398.

GCM-443 Graphic Communication**Integrated Manufacturing Practicum 3 cr.**

Fall, Spring and Summer

Preparation and manufacture of actual printed products for clients in the university community emphasizing process and work flow management through estimating, scheduling, planning and quality control. Equivalent to GCM-343, 130-543. P: GCM-266. R

GCM-445 Publications Production 3 cr.

Fall, Spring and Summer

Cross-discipline work teams experience integration of skills developed in English, speech, art, graphic communications, industrial management and business courses to design, plan, schedule, produce and distribute and actual magazine. Equivalent to GCM-345, 130-545. P: GCM-141.

GCM-446 Digital Imaging 3 cr.

Fall and Spring Semesters

Preparation, capture and manipulation of digital information for current and emerging digital distribution technologies. Repurposing of print media files for alternative distribution systems.

Equivalent to GCM-346, 130-546. P: GCM-356.

GCM-475 Graphic Communications Cost Estimating 3 cr.

Fall and Spring Semesters

Estimating production costs and establishing budget hourly rates and completion time for tasks associated with graphic reproduction. Utilization of a computer integrated manufacturing (CIM) information system to facilitate estimating and managing production processes based on data collected from manufacturing floor real-time terminals.

Equivalent to 130-475. P: GCM-141, BUAUT-200 or BUAUT-206.

GCM-480 Customer Service and Production Coordination for Print Media 3 cr.

Fall and Spring Semesters

Review of the graphic communications manufacturing process. The role and function of the customer service representative, workflow and time requirements for production of various print products. Senior level or higher.

Equivalent to 130-680. P: GCM-141.

GCM-495 Graphic Communications Management Seminar 3 cr.

Fall, Spring and Summer

Technological innovations, management and supervision issues, and emerging trends in the graphic communications industry. Senior level or higher.

Equivalent to GCM-395, 130-595. P: GCM-141. R

GCM-497 Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 130-497. R

GCM-498 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 130-498.

GEOG Geography**GEOG-104 World Geography 3 cr.**

GESBSCI GEOG Fall and Spring Semesters

Introduction to regional and cultural geography of the world; physical and human resources of major areas of the globe. Equivalent to 336-104.

GER German**GER-121 Practical German IA 2 cr.**

Fall Semester

First quarter college German. Conversational phrases and vocabulary for practical situations. Basic present tense verb patterns. Intensive pronunciation drill. Equivalent to 331-121.

GER-122 Practical German IB 2 cr.

GECOMSK LANG Fall and Spring Semesters

Second quarter college German. Conversational phrases and vocabulary. Present and past tense verb patterns. Nominative, accusative and dative case in short sentences. Equivalent to 331-122. P: GER-121.

HDFL Human Development and Family Living**HDFL-100 Introduction to Early Childhood Programs 1 cr.**

Fall and Spring Semesters

History of early childhood programs for children through age 8, developmentally appropriate practice, current issues, professionalism, employability skills and attitudes, career exploration. Early Childhood majors only.

Equivalent to 212-100.

HDFL-101 Introduction to Human Development and Family Studies 1 cr.

Fall and Spring Semesters

Fields of human development and family studies; occupational opportunities in programs serving families and children. Equivalent to 212-101.

HDFL-115 Individual and Family Relations 3 cr.

ESC Fall and Spring Semesters

Dynamics of social-psychological forces affecting family interaction. Explorations of courtship, husband-wife, parent-child relationships.

Equivalent to 212-250, 212-115A.

HDFL-124 Human Development: Early Childhood 3 cr.

Fall and Spring Semesters

Principles and theories of growth and development prenatal through age 8, with a systemic perspective on physical, motor, cognitive, language, social and emotional development. Observations required. Equivalent to 212-124.

HDFL-195 Honors Seminar: Lifespan Human Development 3 cr.

GESBSCI PSYC Fall Semester

Review, discuss and analyze theories of human development across the lifespan. Acceptance into Honors Program.

Equivalent to HDFL-255, 212-195, 212-255A, 212-155, 212-355.

HDFL-215 Dynamics of Family Development 3 cr.

ESB Fall and Spring Semesters

A study of the family with emphasis on environmental factors significant in marriage and family relationships.

Equivalent to 212-350, 212-215. P: HDFL-115.

HDFL-225 Skill Training For Individual/Family Interventions 3 cr.

Fall and Spring Semesters

Concepts and skills in developing rapport, assessing goals and initiating change with children, parents, couples and families across the life span in professional settings. Equivalent to 212-354, 212-225.

HDFL-235 Child Development Laboratory 1 cr.

Fall and Spring Semesters

Observation and/or participation in Early Childhood program. May be repeated for different experiences. Equivalent to 212-235. P: HDFL-124. R

HDFL-255 Lifespan Human Development 3 cr.

GESBSCI PSYC ESC Fall and Spring Semesters

Lifespan individual development. Critical examination of influences on individual development across the lifespan.

Equivalent to HDFL-195, 212-195, 212-255A, 212-155, 212-355.

HDFL-257 Lifespan Sexuality 3 cr.

GEHPE HLTH Fall, Spring and Summer

Introduction to human sexuality over the lifespan, utilizing individual and family perspective. Focus is development of sexual behavior, relationships, and gender characteristics from infancy to late life. Equivalent to 212-357, 212-257.

HDFL-264 Child Guidance 3 cr.

Fall and Spring Semesters

Developmentally appropriate principles and strategies for child guidance. Systems perspective, positive discipline, theoretical approaches, current topics, developing a personal/eclectic approach.

Equivalent to 212-264. P: HDFL-124.

HDFL-265 Child Guidance Practicum 1 cr.

Fall, Spring and Summer

Supervised participation in Child and Family Study Center or similar center: guidance techniques and understanding of children.

Equivalent to 212-265. P: HDFL-264.

HDFL-270 Seminar on Self-Growth 2 cr.

Fall and Spring Semesters

Theories of the self; exploration of aspects of self-development and actualization. Equivalent to 212-270, 212-435, 212-535.

HDFL-280 Child Development II 3 cr.

Fall and Spring Semesters

Empirical study of physical, intellectual, social and emotional development of children. Equivalent to 212-524, 212-280.

HDFL-292 Honors Seminar: Modern Debates About "The Family" 3 cr.

Spring Semester

Review, discuss and debate the various positions taken by commentators on the strength or weakness of modern families in western industrial societies.

Equivalent to 212-292.

HDFL-303 Developmentally Appropriate Practice:**Infants and Toddlers 3 cr.**

Fall Semester

Developmentally appropriate practices for teaching with infants and toddlers in group settings. Contrast of appropriate and inappropriate practices. Emphasis on play, creativity, health and safety, integrated curriculum, appropriate teaching strategies, assessment, program models, and writing lesson plans for infants and toddlers. Observations required. Early Childhood majors only. Minimum cumulative GPA of 2.75. Equivalent to 212-303, 212-303A, 212-594. P: HDFL-100, HDFL-115, HDFL-124, HDFL-264.

HDFL-307 Developmentally Appropriate Practice: Preschool 4 cr.

Fall and Spring Semesters

Developmentally appropriate teaching practices with preschool children in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations and practicum required. Minimum cumulative GPA of 2.75.

Equivalent to 212-307. P: HDFL-100, HDFL-115, HDFL-124, HDFL-264.

HDFL-309 Developmentally Appropriate Practice:**Kindergarten – Primary 2 cr.**

Fall and Spring Semesters

Developmentally appropriate teaching practices in kindergarten through grade 3 in group settings. Play, creativity, health and safety, integrated curriculum, teaching strategies, assessment, program models and lesson plans. Observations required. Minimum cumulative GPA of 2.75.

Equivalent to 212-309. P: HDFL-100, HDFL-115, HDFL-124, HDFL-264.

HDFL-310 Family Stress, Coping and Adaptation 1 cr.

Summer Session

Impact of family development and stress on individual and family well-being.

Equivalent to 212-310, 212-615, 212-510.

HDFL-313 Parent Education/Involvement 2 cr.

Fall and Spring Semesters

Parent groups: training of leaders, survey of literature. Practicum with parent groups. Equivalent to 212-313, 212-507, 212-407.

HDFL-320 Divorced, Single Parent and Remarried Family 2 cr.

Fall, Spring and Summer

Trends and issues in divorce, single parenting and remarriage related to effects on adults, children and society. Equivalent to 212-525, 212-320A.

HDFL-330 Adulthood and the Family 3 cr.

Spring Semester

Study of adults in the family context during the early and middle years.

Equivalent to 212-330A, 212-530.

HDFL-331 Hospice Clinical Experience 1-2 cr.

Fall, Spring and Summer

Work with an area hospice organization under the supervision of the hospice consultant or patient care coordinator. Equivalent to 212-331, 212-531.

HDFL-333 Language Arts in Early Childhood Education 2 cr.

Fall and Spring Semesters

Early childhood education language arts teaching methodologies, emphasizing the development of young children's skills in listening, writing and speaking.

Equivalent to 212-533.

HDFL-335 Seminar: The Culturally Distinct Child and Family 2 cr.

ESA Fall and Spring Semesters

Study of cultural, ethnic, racial and economic influences on the child and family in the United States. Emphasis on knowledge and skills to improve human relations in settings serving young children and families.

Equivalent to 212-335, 212-685.

HDFL-336 Experience: The Culturally Distinct Child and Family 1 cr.

ESA Fall and Spring Semesters

Intensive experience working directly with racial, cultural or economic groups whose background the student does not share.

Equivalent to 212-686, 212-336.

HDFL-340 Human Development: Aging Person 3 cr.

Fall and Spring Semesters

Survey of the field of gerontology focusing on what it means to grow old in the United States from a systemic perspective. Multicultural attitudes toward aging: the psychological, physical, social and economic needs and problems of the older population are addressed. Consideration will be given to the personal, familial, environmental and social resources of the older population.

Equivalent to 212-340A, 212-680, 212-430. P: HDFL-115.

HDFL-341 Family Caregiving to Dependent Elders 1 cr.

Fall, Spring and Summer

Unique challenges confronting adult children who provide care to aging parents. Government, agency, workplace and family policies and practices promoting and/or undermining family strengths and well-being.

Equivalent to 212-540, 212-341.

HDFL-344 Science, Mathematics**and Social Studies – Early Childhood 4 cr.**

Fall and Spring Semesters

Directed study of application of skills for teaching mathematics and science concepts to young children; organization and presentation of teaching/learning experiences for children in early learning situations.

Equivalent to 212-344, 212-333.

HDFL-345 Health Care Dilemmas and Decisions for Families 2 cr.

Spring Semester

Multidisciplinary study of bioethical issues facing U.S. families, including end-of-life decision making, reproductive technologies, and distributive justice.

Equivalent to 212-345A, 212-605.

HDFL-346 Exceptional Needs and Programming – Early Childhood 2 cr.

Fall and Spring Semesters

Program development and implementation for preschool mentally handicapped children. Department chair consent required. Equivalent to 212-545.

HDFL-351 Death and the Family 1 cr.

Fall and Spring Semesters

Current literature concerning how families deal with the death of a member; how adults can help children cope with death in the family, how other family members deal with death of older and younger family members. Equivalent to 212-351.

HDFL-360 The Workplace and the Family 2 cr.

ESC Spring Semester

Linkages between families and workplace; corresponding consequences for individual family well-being and the workplace. Equivalent to 212-654, 212-360.

HDFL-365 Family Resource Management 2 cr.

Fall, Spring and Summer

Examination of individual and family resource management behaviors including: valuing, goal setting, decision making, implementation, resource use, resource exchange and resource creation, and cultural differences in resource management. Equivalent to 212-365. P: HDFL-115, HDFL-215.

HDFL-370 Introduction to Marriage and Family Therapy 3 cr.

Fall Semester

Conceptual frameworks and approaches to marriage and family counseling. Equivalent to 212-650, 212-370.

HDFL-371 Marriage and Family Therapy Seminar 3 cr.

Spring Semester

Application of basic counseling techniques in premarital, marital, family and couples-group counseling; supervised by professional marriage and family counselor. Equivalent to 212-651, 212-371.

HDFL-385 Family-Based Employee Assistance Programs 3 cr.

Fall, Spring and Summer

Structures and functions of employee assistance programs with employees and their families being the primary unit of analysis and service. Instructor's consent required. Junior level or higher. Equivalent to 212-585.

HDFL-395 Special Topics in Human Development 1-2 cr.

Special topics in human development; repeatable for different topics. Junior level or higher. Equivalent to 212-595. R

HDFL-401 Human Development:**Advanced Child Development and Guidance 1 cr.**

Fall and Spring Semesters

Senior level or higher. Equivalent to 212-401A. P: HDFL-264.

HDFL-407 Parent Counseling 2 cr.

Approaches and techniques for working with parents; observation and experience in childrearing problems parents face. Equivalent to 212-607.

HDFL-410 Early Childhood Curriculum: Science 3 cr.

Fall and Spring Semesters

Methods and materials for assessing, planning, implementing and evaluating science curricula for early childhood (*birth through 3rd grade*). Emphasis on science process skills while fostering foundational knowledge in all science areas. Minimum cumulative GPA of 2.75. General education NSCI must be completed. Education majors must have passed PPST.

Equivalent to 212-410. P: HDFL-303, HDFL-307 and HDFL-309.

HDFL-411 Early Childhood Curriculum: Mathematics 3 cr.

Fall and Spring Semesters

Mathematics curriculum planning for early childhood (*birth through third grade*), including selection, organization, presentation, and evaluation of appropriate curricula. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. General education MATH must be completed.

Equivalent to 212-411. P: HDFL-303, HDFL-307 and HDFL-309.

HDFL-412 Early Childhood Curriculum: Social Studies 3 cr.

Fall and Spring Semesters

Methods and materials for assessing, planning, implementing and evaluating social studies curriculum for early childhood (*birth through third grade*). Minimum cumulative GPA of 2.75. General education HIST/ANTH must be completed. Education majors must have passed PPST.

Equivalent to 212-412. P: HDFL-303, HDFL-307, and HDFL-309.

HDFL-413 Early Childhood Curriculum:**Reading and Language Arts 5 cr.**

Fall and Spring Semesters

Methods and materials for planning, assessing, implementing, and evaluating language arts curricula for early childhood (*birth through age six*). Emphasis on developing process skills of emergent literacy, listening, speaking, and writing. Minimum cumulative GPA of 2.75. General education COMMSK must be completed. Education majors must have passed PPST. Equivalent to HDFL-433, 212-413, 212-433. P: HDFL-303, HDFL-307, HDFL-309 and LIT-300.

HDFL-414 Early Childhood Clinical Experience:**Integrated Curriculum 2 cr.**

Fall and Spring Semesters

Development of competencies in planning, teaching, and evaluating the integrated curriculum for the early childhood period. Participation in an early childhood setting required. Equivalent to 212-414.

HDFL-420 Family Research and Methodology 3 cr.

Spring Semester

Analysis of family theory, research methodology and selected topics in family relations. Equivalent to 212-420, 212-590. P: HDFL-115, HDFL-215.

HDFL-421 Administration of Early Childhood Programs 2 cr.

Fall Semester

A study of program organization, program design, staffing, licensing, certification, equipment and facilities for operating early childhood education programs. Field trips required. Equivalent to 212-421A, 212-621A, 212-665.

HDFL-424 Advanced Child Study 3 cr.

A study of principles and review of literature pertaining to children.

Equivalent to 212-624.

HDFL-425 Death Education and Counseling in Families 2 cr.

Death and dying theory; research, practice and application in education and individual and family counseling. Equivalent to 212-690, 212-425.

HDFL-426 Special Topics in the Study of Family Life 1-3 cr.

Family life programs and literature; individual study of problems of personal or professional interest. Equivalent to 212-626.

HDFL-427 Child Abuse and Neglect 2 cr.

Fall Semester

Systemic nature, forms and indicators, and prevention of abuse/neglect. Factors contributing to, and intervention skills in, coping with the effects of abuse/neglect on children and families at risk.

Equivalent to 212-427A, 212-638.

HDFL-433 Language Arts/Reading – Early Childhood Education 3 cr.

Fall and Spring Semesters

Current philosophies, methodology and materials for teaching reading: readiness activities and beginning reading in early childhood.

Equivalent to HDFL-413, 212-413, 212-433.

HDFL-437 Seminar in Child Development 2 cr.

Fall and Spring Semesters

Special problems and aspects in child development; preference given to students' interests. Equivalent to 212-637.

HDFL-440 Child and Family Law 3 cr.

Spring Semester

Legal issues affecting children and families.

Equivalent to 212-601, 212-440. P: HDFL-115, HDFL-215.

HDFL-450 Family Impact Seminar 3 cr.

Spring Semester

Content, methods and process of assessing impact of public policy on children and families.

Equivalent to 212-450, 212-610, 212-450A. P: HDFL-115, HDFL-215.

HDFL-453 Relationship Communication Training 2 cr.

Fall Semester

Communication theories and skills applied to marital, family and other intimate relationships. Application of communication skills to personal relationships and professional work. (*Preferably, but not necessarily, have your premarital or marital partner with you.*) Instructor's consent required. Equivalent to 212-653.

HDFL-454 Suicide and the Family:**Family and Community Intervention 1 cr.**

Analysis of attempted and completed suicides from an interdisciplinary perspective. Forms of intervention, with emphasis upon family therapy, are compared, contrasted, and evaluated for suitability. P: HDFL-215.

HDFL-462 Early Childhood Education Program Models 1 cr.

Fall, Spring and Summer

Exploration and analysis of contemporary early childhood education program models and practices in various settings. Senior level or higher.

Equivalent to 212-662.

HDFL-464 Special Topics in Early Childhood Curriculum 1-3 cr.

Philosophy and methodology of early childhood education: problems confronting teachers. Equivalent to 212-664. R

HDFL-480 Student Teaching: Infant, Toddler, Preschool 6 cr.

Fall and Spring Semesters

Full-day student teaching in a school setting for one quarter, based on the university calendar, with infants, toddlers, or preschoolers. Includes parent interaction and seminar sessions. Professional program admission.

Equivalent to 212-480.

HDFL-480A Student Teaching in Preschool Programs 4 cr.

Fall and Spring Semesters

Directed teaching and community experience in selected early childhood centers. Equivalent to 212-480A, 212-408A.

HDFL-480B Student Teaching in Kindergarten 4 cr.

Fall and Spring Semesters

Directed teaching and community experience in selected kindergartens.

Equivalent to 212-480B.

HDFL-488 Intern Teaching 16 cr.

An alternate method of obtaining student teaching experience. Teacher interns receive license to teach and salaried appointments in cooperating school systems for one full semester. Equivalent to 212-488.

HDFL-490 Professional Issues:**Human Development and Family Studies 2 cr.**

Fall and Spring Semesters

Issues related to professional development in areas of human development and family studies. Human Development and Family Studies majors only. Must have 2.5 GPA in professional core. Equivalent to 212-401, 212-490.

HDFL-491 Practicum in Human Development and Family Studies 4-8 cr.

Fall, Spring and Summer

Practicum experience in human development and family studies. Student will be placed in community agency or organization and supervised by site supervisor and university supervisor. Must have 2.5 GPA in professional core. Consent of program director. Equivalent to 212-693, 212-491. P: HDFL-490. R

HDFL-492 Student Teaching in Prekindergarten 8 cr.

Fall, Spring and Summer

Full-day student teaching experience at the prekindergarten level in a preschool setting, together with a weekly one-hour student teaching seminar session. The student teaching experience follows the calendar of the preschool. Not available to students who have taken HDFL-480A and/or HDFL-490. Early Childhood majors only. Office of Teacher Education permission required.

Equivalent to 212-492. P: HDFL-335, HDFL-344, HDFL-433.

HDFL-493 Student Teaching: Kindergarten 6-8 cr.

Fall and Spring Semesters

Full-day student teaching in a school setting for one quarter based on the host school's calendar with kindergarten age children. Includes parent interaction and seminar sessions. Professional program admission. Equivalent to 212-493.

HDFL-494 Student Teaching: Primary 6-8 cr.

Fall and Spring Semesters

Full-day student teaching in a school setting for one quarter based on the host school's calendar in grade 1, 2, or 3. Includes parent interaction and seminar sessions. Professional program admission. Equivalent to 212-494.

HIST History**HIST-120 Early United States History 3 cr.**

GEHUM HIST ESB Fall, Spring and Summer

U.S. history to 1865: political, economic and social forces that have shaped the nation to close of Civil War. Equivalent to 338-120.

HIST-121 Modern United States History 3 cr.

GEHUM HIST ESB Fall, Spring and Summer

U.S. history since 1865: political, economic and social forces that have shaped the nation since close of Civil War. Equivalent to 338-121, 338-105.

HIST-140 Western Civilization 3 cr.

GEHUM HIST Fall and Spring Semesters

Survey of Western civilization along the Nile, the Fertile Crescent, through Greece, Rome, the Middle Ages, the Renaissance, and the Reformation.

Equivalent to 338-140.

HIST-141 Western Civilization 3 cr.

GEHUM HIST Fall and Spring Semesters

Survey of Western civilization from Reformation to present.

Equivalent to 338-141.

HIST-210 Modern World 3 cr.

GEHUM HIST Fall, Spring and Summer

Modern trends in terms of historical backgrounds as frame of reference for interpreting modern world. Equivalent to 338-210.

HIST-220 History of World Religions 3 cr.

GEHUM HIST ESC Fall and Spring Semesters

Survey of the historical development of the major world religions (*Christianity, Judaism, Islam, Buddhism, Confucianism, Taoism, Hinduism, Shintoism, and Indigenous traditions*) and their presence in the United States. Emphasis on religion's role in world history.**HIST-320 History of Russia 3 cr.**

GEHUM HIST Fall and Spring Semesters

Survey of Russia's historical development since 862. Equivalent to 338-320.

HIST-322 African-American History 3 cr.

GEHUM HIST ESA Fall and Spring Semesters

Social, cultural, economic and political history of African-Americans, with special focus on the United States. Equivalent to 338-322.

HIST-330 History of World War II 3 cr.

GEHUM HIST Fall and Spring Semesters

Causes, conduct and effects of World War II. Equivalent to 338-330.

HIST-350 History of the Vietnam War 3 cr.

GEHUM HIST ESC Fall and Spring Semesters

American role in the Vietnam War, particularly goals, objectives and dilemmas faced by American policymakers; roles and contributions of American men and women in the military and in civilian society; development and impact of the anti-war movement; and long-term consequences of the war on American culture and society.

HIST-360 Asian History 3 cr.

GEHUM HIST Fall and Spring Semesters

Survey of political, social, religious and economic history of Asia, India, China, Japan and the Philippines in modern world. Equivalent to 338-360.

HIST-380 Latin American History 3 cr.

GEHUM HIST

Political, social and economic history of Middle and South America, pre-Columbian to present. Equivalent to 338-380.

HIST-460 History Methods 2 cr.

Fall and Spring Semesters

Historiography and application of the historical method, including the study of teaching methods, instructional materials, and evaluation techniques. History minors only. Equivalent to 338-460.

HLTH Health**HLTH-101 Discovering Wellness 1 cr.**

GEHPE HLTH Fall and Spring Semesters

Introduction to the components and benefits of high level wellness; includes self-assessment and the development of an action plan for lifetime wellness.

Equivalent to 466-101, 366-101.

HLTH-340 ARC Standard First Aid and Personal Safety 2 cr.

Fall, Spring and Summer

American Red Cross certification in standard first aid and personal safety; increase personal safety and accident-prevention knowledge; learn to administer emergency first aid to self or others. Equivalent to 366-340, 466-340.

HLTH-346 ARC Cardiopulmonary Resuscitation .5 cr.

Fall, Spring and Summer

Techniques of basic life support: Recognizing respiratory and/or cardiac arrest and properly administering cardiopulmonary resuscitation (CPR) to maintain life. Successful completion results in 1-year certification in ARC basic life support course in CPR. Equivalent to 366-346, 466-346.

HLTH-350 Prevention and Care of Athletic Injuries 3 cr.

Fall Semester

Provides prospective physical education and/or coaching professional with basic understanding of prevention, treatment and care of athletic injuries.

Equivalent to 366-350, 466-350. P: HLTH-340; and BIO-142, BIO-134 or HLTH-355.

HLTH-355 Kinesiology 3 cr.

Fall Semester

Body movements and principles affecting them.

Equivalent to 366-355, 466-355. P: BIO-132.

HLTH-365 Physiology of Exercise 3 cr.

Spring Semester

Effects of exercise on sports participants: heat stress, body composition, nutrition, cardiovascular function, energy expenditure, respiratory mechanics and ventilation factors. Equivalent to 366-365, 466-365. P: BIO-132 or BIO-134.

HLTH-370 Evaluation and Recognition of Athletic Injuries 3 cr.

Fall and Spring Semesters

Professional preparation course for students interested in obtaining certification in athletic training. Emphasis is placed upon the acquisition of knowledge and skills required for joint and soft tissue evaluation.

Equivalent to 466-370. P: HLTH-350.

HLTH-490 Athletic Training Practicum 2 cr.

Fall and Spring Semesters

Practical application of training principles: prevention and care of athletic injuries, facilities direction, and program management. Equivalent to 366-490, 466-490. P: HLTH-340, HLTH-350, and BIO-132 or BIO-134. R

HT Hospitality and Tourism**HT-100 Introduction to Hospitality 2 cr.**

Fall and Spring Semesters

Exploration of the major components and organization structure of the hospitality industry. Presents historical development, opportunities and current trends. Stresses the importance and relationship of education and work experience to career success. Equivalent to 245-100.

HT-130 Housekeeping Procedures 2 cr.

Fall and Spring Semesters

Management principles applied to duties and responsibilities for hourly and management personnel in hotels, motels, institutions and other hospitality enterprises. Equivalent to 245-201.

HT-133 Front Office Operations 3 cr.

Fall and Spring Semesters

Principles required to organize and operate hotel or motel front office guest needs, salesmanship and procedures for different types of front office operations. Equivalent to 245-202.

HT-140 Introduction to Tourism 2 cr.

Fall, Spring and Summer

Principles and current knowledge of domestic and international tourism; benefits to community, area, state and nation; trends and potentials.

Equivalent to 245-240.

HT-150 Institutional Food Purchasing 2 cr.

Fall and Spring Semesters

Methods of large-quantity food purchasing; determining standards, specific needs and industrial offerings; formulating specifications, buying procedures and controls. Equivalent to 245-222. P: FN-124.

HT-200 Hospitality Organization Management 3 cr.

Fall and Spring Semesters

Management principles for hotels and restaurants, supervisory development and training, labor relations, managerial interpretation and evaluation of current systems and procedures. Equivalent to 245-205. P: HT-100.

HT-208 Hospitality Service Marketing 1 cr.

Application of marketing to hospitality and tourism, including the relational aspects of service marketing management.

HT-218 Hospitality Service Management 1 cr.

Application of the principles and practices of service excellence. Analysis of a definable and manageable system of interdependent commitments and components which provide an experience of consistent quality which satisfies the customer, motivates the employees, and results in profit for the hospitality business.

HT-228 Cost Controls for Hospitality 1 cr.

Analyze methods, devices and systems used to pinpoint responsibility for inefficiencies, errors and fraud over income and expense. Operators will examine cost control tools used to increase revenue, reduce costs and improve the contribution margin. Equivalent to HT-228.

HT-240 Tourism Goods and Services 3 cr.

Fall and Spring Semesters

Analysis of tourism goods and services in relationship to future patterns of supply and demand. Equivalent to 245-341. P: HT-140, ECON-210.

HT-251 Hospitality Marketing and Sales 3 cr.

Fall and Spring Semesters

Analysis of theories, fundamental principles and techniques of hospitality marketing and convention sales; functions, interrelationships and coordination of all hospitality departments and their roles in assuring success of marketing effort. Junior level or higher. Equivalent to 245-344.

HT-270 Introduction to Property Management 2 cr.

Fall, Spring and Summer

Management in commercial and multi-family property. Employees, management tools, government involvement, community development, clients, property law and tax requirements. Equivalent to 245-200.

HT-280 Family Housing 3 cr.

Fall Semester

Relationship of space, equipment, aesthetics and culture to human habitat. Equivalent to 245-250, FCSE-280.

HT-323 Food Service Equipment 2 cr.

Fall, Spring and Summer

Factors affecting design, selection, physical facilities and utilities involved in foodservice equipment. Equivalent to 245-521. P: CADD-112.

HT-324 Quantity Food Production 4 cr.

Fall, Spring and Summer

Quantity food production management concepts; menu planning, work production schedules, production analysis, food and labor cost controls, and sales projections, crisis and service management techniques; lab work in quantity food production and service; recipe development and introduction to productivity and work simplification concepts.

Equivalent to 245-311. P: FN-124 or FN-240; and FN-106 or FN-212.

HT-326 Introduction to Wines and Spirits 3 cr.

Fall, Spring and Summer

Applied and historical knowledge of wines and spirits from different regions of the world; emphasis on preparation, selection, accompaniment with food, basic cost control analysis and service. Must be 21 years or older.

Equivalent to 245-310. P: FN-124. \$

HT-330 Resort Planning and Operation 3 cr.

Spring Semester

Planning and operation of individual destination resorts. Analysis of resort concept, history, master planning, environmental impact, facility design, maintenance and operational management. Equivalent to 245-644. P: HT-430.

HT-340 Development of Tourism Attractions 3 cr.

Fall and Spring Semesters

Diversified natural and man-made background tourism elements (BTE): preservation and incorporation of concepts for development of tourism destinations.

Equivalent to 245-340. P: HT-140, ECON-210.

HT-341 Geography of Tourism 3 cr.

Fall and Spring Semesters

Locational analysis of land use and human migration in national and international tourism. Equivalent to 245-645. P: HT-140, HT-340.

HLTH-490 Athletic Training Practicum 2 cr.

Fall and Spring Semesters

Practical application of training principles: prevention and care of athletic injuries, facilities direction, and program management. Equivalent to 366-490, 466-490. **P:** HLTH-340, HLTH-350, and BIO-132 or BIO-134. **R**

HT Hospitality and Tourism**HT-100 Introduction to Hospitality 2 cr.**

Fall and Spring Semesters

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HT-200 Hospitality Organization Management 3 cr.

Fall and Spring Semesters

Management principles for hotels and restaurants, supervisory development and training, labor relations, managerial interpretation and evaluation of current systems and procedures. Equivalent to 245-205. **P:** HT-100.

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Equivalent to 245-340. **P:** HT-140, ECON-210.

HT-341 Geography of Tourism 3 cr.

Fall and Spring Semesters

Locational analysis of land use and human migration in national and international tourism. Equivalent to 245-645. **P:** HT-140, HT-340.

HT-351 Hospitality Convention/Meeting Planning 2 cr.

Fall, Spring and Summer

The roles and responsibilities of professional hospitality meeting planners and hotel convention sales/service managers are examined for purposes of planning or hosting a major convention, or a corporate, association, or special group meeting event. Equivalent to 245-348. P: HT-251.

HT-352 Club Management 3 cr.

Fall Semester

Managing a membership, city, health and fitness, military, golf, or other social or recreation club. Junior level or higher. Equivalent to 245-506.

HT-353 Computer Systems for Food Service 3 cr.

Fall, Spring and Summer

Functions of computers in a variety of food service operations with specific emphasis on spreadsheets and food service application software. Experience using state-of-the-art technology and microcomputers.

Equivalent to 245-375. P: HT-324, HT-362.

HT-360 Hospitality and the Handicapped Traveler 1 cr.

Fall and Spring Semesters

Provide increased sensitivity to needs of handicapped traveler; problems and possible solutions for hospitality organizations. Equivalent to 245-682.

HT-361 Hospitality and Tourism Accounting 3 cr.

Fall and Spring Semesters

Design and interpretation of specialized accounting and financial control systems in management decision making; uniform system of accounts, departmentalized costing procedures, statement analysis and interpretation.

Equivalent to 245-370. P: BUACT-206.

HT-362 Food, Beverage and Labor Cost Controls 3 cr.

Fall, Spring and Summer

The use of financial techniques and systems to control food, beverage, and labor costs in hospitality food service operations. Equivalent to 245-371.

HT-373 Property Management Applications 2 cr.

Fall and Spring Semesters

Lease management for residential, commercial, institutional, and industrial types of real property, computer based applications.

Equivalent to 245-381. P: HT-270.

HT-380 Consumer Economics 3 cr.

Spring Semester

Motives for consumption, family income and expenditures, selection of commodities and services, buying and selling practices; evaluate consumer aids, investigate local situations. Equivalent to 245-360, FCSE-380. P: ECON-210.

HT-381 Consumer Law 1 cr.

Major federal and state consumer protection laws, difficulties in obtaining passage and implementation, and pending federal and state consumer protection legislation. Equivalent to 245-663. P: HT-380.

HT-382 Family Finance 2 cr.

Fall and Spring Semesters

Financial decisions and judgments that average individuals and families must make during a lifetime; income and occupation, family expenditures, credit, savings, taxes and estate plans. Equivalent to 245-676. P: ECON-210.

HT-423 Wine and Food Pairing 3 cr.

Matching wine and food from different parts of the world using flavors, textures, and components present in food and wine as complementing strategies. Emphasis on menu planning, food preparation, cooking methods and wine tasting with foods. Equivalent to 245-423. P: HT-326. \$

HT-424 Catering 3 cr.

Fall and Spring Semesters

Theory and application of operational and managerial principles for on- or off-premise catering for special events. Junior level or higher.

Equivalent to 245-614, FN-414, 229-614. P: FN-124, FN-260.

HT-425 Fast Food Operations 3 cr.

Fall and Spring Semesters

Organization and function of fast foodservice operations. Work methods procedures, staffing, food quality and quantity control, space and maintenance, safety, sanitation, merchandising and career options will be covered.

Equivalent to 229-550, 245-550.

HT-426 Restaurant Operational Management 3 cr.

Fall, Spring and Summer

Application of the principles of food and beverage management in full service restaurants existing as independent units or as units within a commercial/noncommercial foodservice operation. The course will emphasize fine dining, fine cuisine and control systems. Equivalent to 245-312. P: FN-124, HT-324.

HT-427 Professionalism: Social and Work Environment 1 cr.

The application of necessary skills to be professional in social and work environments with emphasis on professional dress, proper dining etiquette, business conversation, and job search techniques.

Equivalent to HT-481, 245-681. \$

HT-430 Lodging Administration 3 cr.

Fall and Spring Semesters

Analysis of theories, principles and techniques of lodging management; problems and issues encountered by management in providing quality service within cost-efficient organization. Senior level or higher. Equivalent to 245-515.

HT-440 Sociocultural Systems of Tourism 3 cr.

Spring Semester

Various psychosocial dimensions of tourism: motivation, development, community and conflict as related to consumer-tourists, tourists and residents. Senior level or higher. Equivalent to 245-640, 245-640.

HT-450 Food Service Administration 3 cr.

Fall and Spring Semesters

Organization and administration of institutional foodservice systems, personnel selection and training, cost control and problems of supervision.

Equivalent to 245-501.

HT-451 Integrated Management Systems – Hospitality 2-3 cr.

Fall, Spring and Summer

Exploration, comparison and synthesis of practices, concepts and theories in hospitality management systems. Senior level or higher. Equivalent to 245-600.

HT-460 Hospitality Industry Law and Liability 3 cr.

Fall and Spring Semesters

Laws applicable to ownership and operation of inns, hotels, motels, restaurants and other places of public hospitality. Equivalent to 245-625. P: BULGL-318.

HT-461 Hospitality Industry – Employee and Labor Relations 2 cr.

Fall and Spring Semesters

Investigation of employee and labor relations in the hospitality industry; history, legality and techniques of dealing with unionization. Equivalent to 245-626.

HT-462 Hospitality – Financial Analysis, Budget and Forecasting 3 cr.

Fall, Spring and Summer

Application of accounting and financial analysis techniques to managerial decision-making in hospitality industry.

Equivalent to 245-670. P: BUACT-206, HT-361, HT-362.

HT-470 Seminar in Property Management 2 cr.

Spring Semester

Culminating professional course for the property management minor program. Preparation of a property management plan for a specific property. Discussion of current trends and industry problems. For Property Management minors only. Equivalent to 245-684.

HT-480 Consumer Credit 1 cr.

Types and sources of credit, determination of credit costs, considerations before using, and regulatory laws. Equivalent to 245-660. P: HT-380.

HT-481 Special Problems in Hospitality and Tourism 1-3 cr.

Fall, Spring and Summer Equivalent to 245-681. RS

HT-482 Consumer Protection 1 cr.

Spring Semester

Major federal and state consumer protection agencies; major business, industry and private organizations set up to aid consumers; avenues of individual and collective consumer redress. Equivalent to 245-662.

HT-488 Financial Planning for Retirement 2 cr.

Fall and Spring Semesters

Financial considerations made in preparing for and during retirement. Emphasis on the values, goals, income, expenditures, credit, savings, investments, taxes and estate plans. Equivalent to 245-677, 245-678.

HT-492 Seminar in Hospitality and Tourism Management 3 cr.

An advanced course in management. The student will select and research a current topic of importance to the industry. Equivalent to 245-482. RS

HT-493 Commercial and Residential Lighting 2 cr.

Fall Semester

Practical information on light for general residential living; sociological, psychological and physical aspects of lighting environment. Equivalent to 245-436.

HT-498 Hospitality and Tourism Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must have 90 credits completed. Equivalent to 245-498.

INMGT Industrial Management**INMGT-100 Introduction to Industrial Management 1 cr.**

Fall Semester

Survey of history, philosophy, and future of industrial management focusing on changes, challenges, opportunities, and industrial management's role in business and industry.

INMGT-120 Quality Concepts 3 cr.

Fall, Spring and Summer

An introduction to quality, quality systems, and quality management through a survey of the various philosophies, principles, techniques and procedures used by various organizations and/or managers to assure customer satisfaction of product and/or service. Equivalent to 150-120.

INMGT-200 Production and Operations Management 3 cr.

Fall, Spring and Summer

A broad analytical "systems" viewpoint is used to develop competency in management decision-making and problem solving in an operations setting. Math placement test required.

Equivalent to 150-200. P: STAT-130, STAT-330 or STAT-320.

INMGT-220 Quality Systems – Service Industries 3 cr.

Method, procedures and administration of quality technologies for business and service industries. Analysis, documentation of standards and applied research.

Equivalent to 150-220. P: INMGT-220.

INMGT-298 Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Equivalent to 150-298. R

INMGT-300 Engineering Economy 2-3 cr.

Fall, Spring and Summer

Source and application of funds: cost control, valuation, depreciation, replacement theory and taxation. Equivalent to 150-500. P: INMGT-200.

INMGT-301 Seminar 1-2 cr.

Fall and Spring Semesters

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. Equivalent to 150-501. R

INMGT-302 Seminar 1 cr.

Fall and Spring Semesters

Elements of time management, strategies and techniques in industrial and business environments. Analysis of time use by all levels of management.

Equivalent to 150-502.

INMGT-305 Product and Inventory Control 3 cr.

Fall and Spring Semesters

Principles and techniques of minimizing cost of ordering, receiving, storing, issuing, scheduling, routing, dispatching, expediting, and controlling material, parts, sub-assemblies, and final assemblies of a manufacturing system.

Equivalent to 150-505. P: INMGT-200, STAT-130 or STAT-320.

INMGT-310 Production Processing 3 cr.

Fall and Spring Semesters

Production processes, especially product design as related to economic production; factors that influence choice and sequence of process to obtain end product. Equivalent to 150-510. P: INMGT-200.

INMGT-314 Industrial Enterprise Practicum 3 cr.

Fall, Spring and Summer

Organization and operation of an industrial company; election, designing, production planning, production, marketing and distribution of a product.

Equivalent to 150-514.

INMGT-320 Quality Tools 3 cr.

Fall, Spring and Summer

Practical and statistical quality control in design and use of Quality Assurance Programs: Quality Engineering, Manufacturing Quality Assurance and Product Quality Assurance. Equivalent to 150-520. P: INMGT-120, INMGT-200.

INMGT-325 Quality Management 3 cr.

Fall, Spring and Summer

Provides the managerial and technical knowledge necessary to prepare, document, manage, and evaluate quality systems from beginning design through system operation and post-delivery customer services within a product or service environment. Equivalent to 150-525. P: INMGT-120.

INMGT-326 International Quality Systems 1 cr.

WinTerM

Quality system and management requirements in the global, national and competitive marketplaces. Equivalent to 150-526.

INMGT-330 Material Handling 3 cr.

Fall and Spring Semesters

Principles of material handling; handling function, its role in production activities and problems of handling materials in industrial settings.

Equivalent to 150-530. P: INMGT-200.

INMGT-340 Time and Motion Study 1-3 cr.

Fall, Spring and Summer

Methods design and work measurement. Development of work methods by applying motion analysis, charting techniques, principles of motion economy, and work station design. Includes direct stopwatch methods, predetermined time systems, and standard data. Managerial implications for labor relations considered. Equivalent to 150-540. P: INMGT-200.

INMGT-350 Facilities Planning 3 cr.

Fall and Spring Semesters

Study of facilities location, structure, and planning for efficient layout and material handling systems. Equivalent to 150-550. P: INMGT-200.

INMGT-360 Benchmarking in Business and Industry 1 cr.

WinTerM

Theory, benefits and procedures of successful benchmarking, including the related legal and ethical issues. Equivalent to 150-560. P: INMGT-200.

INMGT-365 Project Management 2 cr.

Spring Semester

Planning, scheduling, and control of technical projects. Topics covered include activity identification, network diagrams, scheduling, PERT/CPM, cost analysis, resource management, and computer control.

INMGT-397 Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 150-397.

INMGT-398 Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Equivalent to 150-398. R

INMGT-400 Organizational Leadership 3 cr.

ESC Fall, Spring and Summer

Overview of the leader's role in accomplishing organizational objectives through the management of human resources. Concepts of organizational and individual behavior serve as a foundation for the development of such leadership skills as communication, motivation, initiating change, team building, delegation, building credibility, and conflict management. Equivalent to 150-600.

INMGT-401 Management Consulting 2 cr.

Fall and Spring Semesters

The organization and analysis of major elements of the consulting profession in management: 1. subject matter expertise, 2. marketing, 3. organizational development, 4. business principles for consultants and 5. communication skills; synthesis of the interdependent relationship of the major elements in the consultation process. Equivalent to 150-601.

INMGT-405 Production and Inventory Control Practicum 2 cr.

Application of principles and techniques learned in INMGT-305 as part of Professional Semester/Manufacturing Laboratory.

Equivalent to 150-605. P: INMGT-305.

INMGT-415 Women and Minorities in Management 2 cr.

ESB Fall Semester

An examination of current status of women and minorities in management positions such as managerial styles of women and minorities, specific leadership techniques, and changing and leading organizations to minimize discrimination. Equivalent to 150-615. P: SOC-110, and INMGT-400 or BUMGT-304.

INMGT-416 People Process Organization Cultures 2 cr.

Fall and Spring Semesters

A study of high performing people process culture organizations integrating sociology, applied psychology, and organization behavior subject matter areas.

P: INMGT-400 or PSYC-382.

INMGT-420 Quality Assurance – Practicum 4 cr.

Application of principles and techniques learned in INMGT-320, as part of Professional Semester/Manufacturing Laboratory.

Equivalent to 150-620. P: INMGT-320.

INMGT-422 Quality Engineering 3 cr.

Fall and Spring Semesters

Practical and statistical engineering methods to improve quality, reliability and design in a manufacturing environment.

Equivalent to 150-422. P: INMGT-200, STAT-330; minimum grade C.

INMGT-430 Employee Involvements: Work Teams 2 cr.

Summer Session

Background and history of employee involvement, teams as a method of employee involvement, analysis of the advantages and disadvantages of different team structures and the planning processes used to implement team structures, analysis of situational variables used to help design the best team approach for an organization, the support systems needed to maintain teams, phases of team development, facilitation skills, and team problem-solving methods. Senior level or higher. Equivalent to 150-630.

INMGT-435 Facilities and Material Handling Systems Design 2 cr.

Fall and Spring Semesters

Analysis and design of facilities and material handling systems. Includes plant layout and material handling principles and equipment. For Manufacturing Engineering majors only. Equivalent to 150-435. P: INMGT-200; minimum grade of C.

INMGT-450 Maintenance Management 2 cr.

Fall, Spring and Summer

Organization and management of facilities management system: administration of maintenance forces, maintenance of personnel, planning and scheduling of work, maintenance of basic environmental systems, project control and cost control for maintenance operations. Equivalent to 150-450.

INMGT-460 Industrial Management 2 cr.

Summer Session

Principles and methods of analyzing and solving industrial problems; application through case studies, management games and special problems. Senior level or higher. Equivalent to 150-660.

INMGT-470 Industrial Technology Capstone 2 cr.

Fall and Spring Semesters

Leadership and managerial skill development through mentored project work, professional organization participation and research activities.

Equivalent to 150-470. P: INMGT-400.

INMGT-480 Production Systems Planning 2 cr.

Fall and Spring Semesters

Plan of manufacturing systems utilizing contemporary techniques, such as: employee involvement, value analysis, compatibility with facilities and equipment, reliability, material requirements, scheduling, and risk control.

Equivalent to 150-480. P: INMGT-422.

INMGT-485 Production Management Practicum 2 cr.

Fall and Spring Semesters

Application of principles and techniques of analyzing and solving production management problems learned in prior course work to manufacturing project in manufacturing laboratory. Instructor's consent required. Equivalent to 150-680.

INMGT-489 Business and Industrial Intern 1-8 cr.

Fall, Spring and Summer

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. Equivalent to 150-489. R

INMGT-497 Field Experience 1 cr.

Fall, Spring and Summer

Equivalent to 150-497.

INMGT-498 Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand business and industrial concepts and practices. Equivalent to 150-498. R

LIT Literature**LIT-202 The Family in Literature 3 cr.**

GEHUM LIT ESC Fall Semester

Literature about the family selected from several historical periods and cultures. Equivalent to 326-303. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-203 American Poets 3 cr.

GEHUM LIT ESB

Contemporary American writers of narrative, dramatic and lyric poetry. Equivalent to 326-203. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-205 The Short Story 3 cr.

GEHUM LIT Fall Semester

Style, structure, history and development of short story as a literary form. Equivalent to 326-204. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-208 Fiction Into Film 3 cr.

GEHUM LIT ESC Fall and Spring Semesters

Selected works of literature and their film adaptations. Equivalent to 326-308. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-248 American Literature 3 cr.

GEHUM LIT Fall, Spring and Summer

American prose and poetry from its beginnings to World War I. Equivalent to 326-348. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-250 Classical and Biblical Literature in Translation 3 cr.

GEHUM LIT Fall and Spring Semesters

Selections from Greek, Hebrew and Latin literature.

Equivalent to 326-250. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-255 Recent World Literature 3 cr.

GEHUM LIT

Selected readings in Contemporary Literature in Translation.

Equivalent to 326-355. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-260 Modern American Literature 3 cr.

GEHUM LIT ESB Fall, Spring and Summer

Selected poetry, prose and drama produced since World War I.

Equivalent to 326-360. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-272 Women Writers 3 cr.

GEHUM LIT Fall Semester

Analyze writing of prominent American and British women novelists and poets of 19th and 20th centuries; criticism of women writers.

Equivalent to 326-372. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-273 American Multicultural Literature 3 cr.

GEHUM LIT ESA Fall, Spring and Summer

American multicultural literature, focusing on Hispanic, African, Asian, and Native American writers.

Equivalent to 326-373. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-280 Best-Sellers 3 cr.

GEHUM LIT Fall and Spring Semesters

Fiction and non-fiction best-sellers: expression of and impact on popular culture.

Equivalent to 326-380. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-281 Recent American Literature 3 cr.

GEHUM LIT ESB Spring Semester

American poetry, fiction and drama since 1950.

Equivalent to 326-381. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-285 Science Fiction 3 cr.

GEHUM LIT

Critical survey of popular and classic science fiction.

Equivalent to 326-385. P: ENGL-102, ENGL-112 or ENGL-113.

LIT-286 Detective Fiction 3 cr.**GEHUM LIT**

Literary, historical and social implications of detective fiction from its inception to the present. Includes popular writers, literary writers, non-print media and criticism. Equivalent to 326-286. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-300 Children's Literature 3 cr.**GEHUM LIT ESB** Fall and Spring Semesters

Critical survey and ways of presenting literature for children from infancy to age 12. Equivalent to 326-300. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-301 English Literature 3 cr.**GEHUM LIT** Spring Semester

Selected prose and poetry from 1798 to modern times.

Equivalent to 326-401. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-302 Topics in Literature 1 cr.**GEHUM LIT** Fall, Spring and Summer

Intensive analysis of selected authors and literary works with emphasis on discourse analysis in group and workshop settings.

P: ENGL-102, ENGL-112 or ENGL-113.

LIT-304 American Folklore 3 cr.**GEHUM LIT ESB** Fall and Spring Semesters

Analysis and interpretation of stories, songs, jokes, and material culture of families, work groups, ethnic groups, and religious groups.

Equivalent to 326-304. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-306 Shakespeare 3 cr.**GEHUM LIT** Spring Semester

Several representative plays and selected criticism.

Equivalent to 326-406. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-350 Modern British Literature 3 cr.**GEHUM LIT** Fall and Spring Semesters

Selected poetry, prose, and fiction produced since World War I.

Equivalent to 326-350. **P:** ENGL-102, ENGL-112 or ENGL-113.

LIT-450 Studies in Literature (*Theme, Author, Genre*) 2-3 cr.**GEHUM LIT** Fall and Spring Semesters

A study of a selected writer's work or of literature focusing on a significant theme of literature or of a genre not offered as a distinct course of similar duration within the departmental curriculum.

Equivalent to 326-450, LIT-450. **P:** ENGL-102, ENGL-112 or ENGL-113. **R:**

LIT-468 Industrial Technology Senior English Seminar 1 cr.

Fall, Spring and Summer

In-depth study of an internationally significant theme using literature (*fiction, poetry, and non-fiction*) as a vehicle for developing higher level skills in reading, thinking and writing. Senior level or higher.

Equivalent to 326-468. **P:** ENGL-102 ENGL-112 or ENGL-113.

LOG Logic**LOG-250 Critical Thinking 3 cr.**

Fall, Spring and Summer

Formulation, clarification and critical evaluation of claims: justification through non-formal argumentational strategies. Equivalent to 365-250.

LOG-301 Introduction to Logical Thinking 3 cr.**GEANRSN LOGIC** Fall and Spring Semesters

Problem-solving strategies based on induction and on categorical and propositional deduction. Equivalent to 365-301.

MATH Mathematics**MATH-010 Fundamentals of Algebra 2 cr.**

Fall and Spring Semesters

Review of fundamental principles of elementary algebra. Credit earned for MATH 355-010 will not count toward graduation. Equivalent to 355-010.

MATH-110 Intermediate Algebra 4 cr.

Fall and Spring Semesters

Basic algebraic skills: factoring, exponents, rational expressions, linear equations and inequalities, systems of equations, quadratic equations, and an introduction to functions. One year of high school algebra and math placement test is required, or MATH-010. Equivalent to 355-110, 355-196D.

MATH-118 Concepts of Mathematics 4 cr.**GEANRSN MATH** Fall, Spring and Summer

Elementary concepts in mathematical language and reasoning, sets, number systems and theory, algebraic equations, statistics and probability, geometry, computers; historical survey. One year of high school algebra and math placement test required, or Math-010. Equivalent to 355-118.

MATH-119 Business Mathematics 4 cr.

Fall, Spring and Summer

Review of arithmetic and basic algebra; simple and compound interest, inventory control and purchase planning; applications to retailing, marketing, accounting, finance, consumerism and insurance. Equivalent to 355-119.

MATH-120 Introductory College Mathematics I 4 cr.**GEANRSN MATH** Fall, Spring and Summer

Review of basic algebra, solving equations and inequalities, applications of equations and inequalities, functions and their graphs, polynomial equations, and systems of equations. Math placement test required, or MATH-110.

Equivalent to 355-120.

MATH-121 Introductory College Mathematics II 4 cr.**GEANRSN MATH** Fall and Spring Semesters

Continuation of MATH-120. Study of functions to include rational, exponential, logarithmic, and trigonometric functions and two dimensional analytic geometry. Math placement test required or MATH-120. Equivalent to 355-121.

MATH-123 Finite Mathematics With Applications 4 cr.**GEANRSN MATH**

Real number system, systems of linear equations and inequalities, sets, functions, vectors, matrices, probability, linear programming, theory of games, Markov chains. Math placement test required, or MATH-110 or MATH-120.

Equivalent to 355-123.

MATH-152 Calculus for Management and the Social Sciences 4 cr.

GEANRSN MATH Fall, Spring and Summer

Basic concepts of calculus with applications in the managerial and social sciences. Equivalent to 355-152. P: MATH-123.

MATH-153 Calculus I 4 cr.

GEANRSN MATH Fall, Spring and Summer

Functions, limits, continuity, bounds, sets; the derivative of functions and applications; exponential, logarithmic, trigonometric and inverse functions. Not open to those with credit in MATH-154, MATH-156, MATH-157 or MATH-158. Math placement test required, or Math-121. Equivalent to MATH-156, 355-156, 355-153, MATH-157, 355-157, MATH-158, 355-158.

MATH-154 Calculus II 4 cr.

GEANRSN MATH Fall and Spring Semesters

Continuation of MATH-153: antiderivatives; integration theory and techniques, applications; parametric equations, vectors. Equivalent to MATH-157, 355-157, 355-154, MATH-156, 355-156. P: MATH-153 or MATH-156.

MATH-156 Calculus and Analytic Geometry I 5 cr.

GEANRSN MATH Fall Semester

Review of real numbers, inequalities, absolute values, intervals and continuity; analytic geometry of the plane, limit concepts, derivatives of algebraic functions, definite integral. Math placement test required, or MATH-121.

Equivalent to MATH-153, 355-156, 355-153, MATH-154, 355-154.

MATH-157 Calculus and Analytic Geometry II 5 cr.

GEANRSN MATH Spring Semester

Application of derivative and definite integral; conic sections and other algebraic curves; calculus for rational, algebraic, circular, exponential and trigonometric functions; formal integration. Equivalent to MATH-154, 355-157, 355-154, MATH-153, 355-153. P: MATH-156.

MATH-158 Calculus III 3 cr.

Fall and Spring Semesters

Formal integration continued; parametric equations, polar representation, Cauchy's formula, Taylor's theorem, infinite series, vectors, partial differentiation, multiple integration.

Equivalent to MATH-153, 355-153, 355-158. P: MATH-154 or MATH-157.

MATH-250 Differential Equations With Linear Algebra 3 cr.

Fall and Spring Semesters

Differential equations: first-order and higher-order equations, systems of linear differential equations. Linear algebra: matrices, determinants, systems of linear equations, vector spaces, linear transformations, eigenvalues, eigenvectors. Equivalent to 355-250, 355-265, MATH-255, 355-250, 355-255. P: MATH-154 or MATH-157.

MATH-255 Differential Equations 3 cr.

Fall and Spring Semesters

Common types of ordinary differential equations of first and second order; linear equations with constant coefficients; series solutions, numerical approximations, systems of ordinary equations.

Equivalent to MATH-250, 355-250, 355-255. P: MATH-154 or MATH-157.

MATH-262 Modern Geometry 3 cr.

Spring Semester

Development of logical discourse, betweenness properties and plane separation, geometric models of axiomatic systems, modern geometry of triangle and circle, transformations (*linear, circular*), orthogonal systems of circles, elliptic and hyperbolic geometry. Equivalent to 355-262. P: MATH-153 or MATH-156.**MATH-275 Linear Algebra 3 cr.**

Fall and Spring Semesters

Algebra of linear transformations and matrices. Determinants, equivalence relations, rank systems of equations, vector spaces, orthogonal transformations, characteristic equations and quadratic forms.

Equivalent to 355-275. P: MATH-153 or MATH-156.

MATH-350 Vector Analysis 3 cr.

Fall, Spring and Summer

Basic theory of vectors. Vector differential calculus and vector integral calculus of two and three dimensions with applications.

Equivalent to 355-350. P: MATH-158.

MATH-370 Modern Algebra I 3 cr.

Fall Semester

Set theory, mappings, equivalence relations and classes, mathematical induction, Peano's postulates, isomorphisms; development of natural numbers, integers, rational, and real numbers; introduction to integral domains and rings.

Equivalent to 355-370. P: MATH-154 or MATH-157.

MATH-371 Modern Algebra II 3 cr.

Spring Semester

Continuation of 355-370; rings, integral domains, fields, polynomials, groups, vector spaces; introduction to algebra of matrices.

Equivalent to 355-371. P: MATH-370.

MATH-450 Real Analysis I 3 cr.

Fall Semester

Rigorous development of advanced topics in analysis; functions, real numbers, sequences, Cartesian spaces, sequences of functions, limit superior and inferior, continuous functions.

Equivalent to 355-450. P: MATH-154 or MATH-157.

MATH-451 Real Analysis II 3 cr.

Spring Semester

Continuation of 355-450; differentiation, integration, infinite series.

Equivalent to 355-451. P: MATH-450.

MATH-460 Complex Variables With Applications 3 cr.

Spring Semester

Complex numbers, analytic functions, elementary functions of complex variables, mapping of elementary functions, integration techniques, power series and calculus of residues. Equivalent to 355-460. P: MATH-255.

MEBE Marketing Education/Business Education**MEBE-201 Introduction to Teaching****Marketing and Business Education 3 cr.**

Fall Semester and Summer Session

Philosophy of marketing and business education programs; curriculum offerings; the job of a marketing and business educator: planning, guidance, public relations activities, administrative responsibilities; legislation affecting marketing education, adult marketing and business education offerings, and evaluation of marketing and business education programs.

Equivalent to 196-201.

MEBE-202 Supervision of Business and Marketing Vocational Student Organizations 3 cr.

Fall Semester

Provides competencies needed to become a successful advisor and to integrate a marketing and/or business education vocational student into curriculum with focus on the high school division of the BPA, FBLA, and DECA.

Equivalent to 196-202.

MEBE-301 Marketing Education Methods 3-4 cr.

Fall Semester

Techniques and methods of delivering marketing education: Lecture, projects, individualized instruction, demonstration, instructional resource materials, and integration of DECA and Co-op instructional activities.

Equivalent to 196-301. P: EDUC-312, MEBE-201, MEBE-202.

MEBE-311 Marketing Education Project Method 2 cr.

Fall Semester

Designed to develop methods, techniques, activities and resources that center around teaching marketing education via the project method or model store simulation. Equivalent to 196-311. P: MEBE-201, MEBE-202, MEBE-312. Corequisite courses: MEBE-312.

MEBE-312 Pre-Clinical Experience: Marketing Education 1 cr.

Fall Semester

Pre-Student teaching experience by designing, delivering and evaluating lessons in a high school setting in conjunction with MEBE-311 Marketing Education project method. Equivalent to 196-312. P: MEBE-201, MEBE-202, MEBE-311. Corequisite courses: MEBE-311.

MEBE-355 Marketing and Business Education Seminar 2-3 cr.

Designed to update marketing and business education students on issues and trends in vocational business and marketing education.

Equivalent to 196-555. R

MEBE-401 Marketing Education Curriculum 2-3 cr.

Fall Semester

Introduction to curriculum development for students who are preparing to become teacher-coordinators of marketing education. Includes an update on current issues and trends in marketing education curriculum, development of a specific curriculum unit, and competency-based instruction. Equivalent to 196-401. P: MEBE-201, MEBE-202, MEBE-301, MEBE-311, EDUC-312.

MEBE-408 Marketing Education Student Teaching 8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools (quarter). Equivalent to 196-408.

MEBE-409 Marketing Education – Student Teaching 2-16 cr.

Spring Semester

Directed teaching and community experiences in selected off-campus schools. Senior level or higher. Satisfactory health, speech, and English. Minimum cumulative GPA of 2.75. Equivalent to 196-409. P: MEBE-201, MEBE-202, MEBE-301, MEBE-401, MEBE-312.

MEBE-411 Business Education Methods and Curriculum 5 cr.

Fall, Spring and Summer

Teaching methods and curriculum design for business educators. Emphasis on basic business subjects; business literacy and entry-level job preparation; issues and trends; microteaching; development of a competency-based basic business education curriculum unit.

Equivalent to 196-411. P: MEBE-201, MEBE-202.

MEBE-419 Business Education Student Teaching 2-8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools. Office of Teacher Education permission required.

Equivalent to 196-419. P: MEBE-201, MEBE-202, MEBE-411.

MEBE-488 Marketing Education – Internship 8-16 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools. Admission to Student Teaching. Equivalent to 196-488.

MEBE-489 Business Education Internship 8-16 cr.

Spring Semester

Directed teaching and community experiences in selected off-campus schools. Equivalent to 196-489.

MECH Engineering Mechanics

MECH-290 Mechanics of Solids I 3 cr.

Fall and Spring Semesters

Technical calculations, dimensional analysis, freebody diagrams, force systems and equilibrium, friction, elementary statically determinate framed structures, and simple stress.

Equivalent to 130-290, 183-290. P: PHYS-231, PHYS-241 or PHYS-281.

MECH-291 Mechanics of Solids II 3 cr.

Fall and Spring Semesters

Stress and strain, torsion, bending of beams, compound stress, principal stress, deflection of beams, statically indeterminate members and columns.

Equivalent to 130-291, 183-291. P: MECH-290 or PHYS-331.

MECH-293 Engineering Mechanics 3 cr.

Fall Semester

Force systems and equilibrium in two and three dimensions, free body diagrams, trusses, frames, friction, kinematic analysis of particle and rigid body translation, rotation, and general plane motion, force-acceleration analysis, work-energy analysis, impulse-momentum analysis, impact, damped and undamped vibrations, and forced vibrations.

Equivalent to 183-293, 183-296. P: PHYS-281.

MECH-294 Mechanics of Materials 3 cr.

Spring Semester

Stress and strain, stress-strain curves, material properties, stress and strain transformation, axially loaded members, elastic and inelastic flexure, shear and bending moment diagrams, beam deflections, combined loading, fatigue, column buckling. Equivalent to 183-294. P: MECH-293; minimum grade of C.

MECH-298 Field Experience 1-2 cr.

Fall, Spring and Summer

Equivalent to MECH-294, 183-294, 183-298.

MECH-332 Mechanical Design 4 cr.

Spring Semester

Analysis and design of machine elements: gearing, bearings, shafting and friction devices. Equivalent to 183-532.

MECH-337 Mechanical Design Drafting 2 cr.

Fall Semester

Design of a machine, specifications, layout, calculations, bills of material, detail and assembly drawings.

Equivalent to 130-537, 183-537. P: CADD-113, MECH-332.

MECH-392 Mechanics of Machinery I 3 cr.

Spring Semester

Dynamics of machinery: rectilinear and curvilinear motion; translation and rotation of a rigid body, force-acceleration equation, impulse and momentum; work, power and energy; balancing and vibration.

Equivalent to 130-592, 183-592. P: MECH-290 or PHYS-331; and MATH-153.

MECH-393 Mechanics of Machinery II 3 cr.

Fall Semester

Graphical analysis and synthesis of linkages, cams, gear trains, displacement, velocity, acceleration and dynamic forces. Equivalent to 130-593, 183-593.

MECH-398 Field Experience 1-2 cr.

Fall, Spring and Summer. Equivalent to 183-398.

MECH-498 Field Experience 1-2 cr.

Equivalent to 183-498, RD-498.

MEDIA Media Technology**MEDIA-100 Advanced Information Technologies for Students 1-2 cr.**

School-based teams of teachers and students will choose one of three applications and create a unique presentation for their local community. The presentation will show how Wisconsin's high academic standards are learned using advanced information technologies such as video production, web pages, and desktop publishing.

MEDIA-180 Microcomputer Applications – Words/Data 2 cr.

Spring Semester and Summer Session

Applications of specific commercial microcomputer programs for personal, professional and student use. Emphasis on word processing, numerical and file management programs. Equivalent to 120-580, 120-180.

MEDIA-304 Elementary Photography 2-3 cr.

GEHUM CRPRF

Basic fundamentals of photography involving composition, aesthetics, photographic theory, camera operations, film selection and development, exposure controls, enlargement of images, photographic presentation and display, filters and filtration for black/white and color film, introduction to color photography and films, and basic electronic imaging. Student must provide their own 35mm camera. Equivalent to 120-304, 600-504, 120-504.

MEDIA-335 Film-History and Appreciation 3 cr.

Fall Semester

Evolution of motion picture film as medium of mass communication and aesthetic expression; contributions of noted film producers.

Equivalent to 600-535, 120-535.

MEDIA-360 Introduction to Media in Education and Training 2 cr.

Fall, Spring and Summer

Use of media in education and training. Includes the production of media and instructional materials in print, video, computer-bases and multimedia formats.

Equivalent to 120-560, 600-560.

MEDIA-370 Computer-Assisted Interactive Video 3 cr.

Summer Session

Design, production and evaluation of interactive video applications. Analysis of various hardware and software systems. Instructor's consent required.

Equivalent to 600-570, 120-570.

MEDIA-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in media technology providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

Equivalent to 120-600. R

MEDIA-405 Advanced Photography 2-3 cr.

Fall, Spring and Summer

Advanced monochromatic photography: aesthetics, advanced theory, view-camera techniques, studio lighting, materials and equipment selection, sheet-film processing, specialized processes and techniques.

Equivalent to 600-605, 120-605. P: MEDIA-304. S

MEDIA-410 Delivery Systems for Training 3 cr.

Fall, Spring and Summer

Overview and selection criteria of instructor-led, computer-based, and distance learning systems for delivering content to trainees in the workplace. Includes the development of training materials in a variety of formats. Instructor's consent required. Computer literacy required. Equivalent to 120-610.

MEDIA-412 Nature Photography 2 cr.

Fall, Spring and Summer

Fundamentals of camera techniques composition, aesthetics, exposure and light in relationship to animals, plants, water, weather and landscapes. Special emphasis on proper photographic equipment and field techniques for nature photography. Camera required.

Equivalent to 600-612, 120-612. P: 120-304. S

MEDIA-414 Slide Duplication and Copystand Techniques 1 cr.

Summer Session

Selection and use of equipment for copystand work and slide duplication; discussion of and practice with filters and multiple exposures.

Equivalent to 600-614, 120-614. P: 120-304.

MEDIA-430 Audio/Film Production Fundamentals 3 cr.

Fall Semester and Summer Session

A survey of audio and video production fundamentals applied to the process of instructional communication. Equivalent to 600-630, 120-630.

MEDIA-440 Telecommunication Systems and Teleconferencing 2 cr.

Fall, Spring and Summer

Interactive teleconferencing techniques. Applications, effective utilization and cost-effectiveness of information distribution systems, including telephone, television, teletext, videotext, viewdata, cable TV, slow-scan TV, and computers. Survey of transmission systems, including telephone lines, satellites, coaxial cable, microwave and fiber optics. Equivalent to 600-640, 120-640.

MEDIA-445 Color Photography 2-3 cr.

Fall, Spring and Summer

Aesthetics, color theory, film selection, lighting, copy techniques, slide duplication, reversal and negative color film processing, and color printing.

Equivalent to 600-645, 120-645. S

MEDIA-454 Small Format Video Production 1 cr.

Summer Session

Selection of small format video systems to meet varied production needs. Planning and shooting video programs using BETA or VHS camcorders or 8mm equipment. Participants must provide their own personal or institutional video equipment. Equivalent to 600-654, 120-654.

MFGE Manufacturing Engineering**MFGE-106 Impacts of Engineering Design 2 cr.**

GETECH Fall, Spring and Summer

Investigation and exploration into past and present practices of engineering design and the resulting impacts on people, society, and the environment.

MFGE-145 Introduction to Manufacturing Engineering 1 cr.

Fall Semester

Introduction to Manufacturing Engineering as a profession. Presentation of the umbrella of engineering disciplines involved in manufacturing engineering.

Equivalent to 181-145.

MFGE-275 Thermodynamics and Heat Transfer 2 cr.

Fall and Spring Semesters

Application of thermodynamics and heat transfer fundamentals to the design and analysis of manufacturing processes and systems.

P: PHYS-281 MATH-250; minimum grade of C. Corequisite: MATH-250.

MFGE-320 Material Removal Processes 3 cr.

Spring Semester

Analysis and application of primary and secondary processing and post-processing methods used to manufacture products made from a broad spectrum of materials. The focus is on processes that shape materials by traditional and non-traditional material removal techniques. Measurement principles and practice are encountered in hands-on part machining and inspection.

Equivalent to 181-320, 170-320. P: CHEM-341, MECH-293, CADD-113, STAT-330; minimum grade of C.

MFGE-325 Computer Aided Manufacturing for Manufacturing Engineers 3 cr.

Fall, Spring and Summer

Effects of product mix and demand patterns on manufacturing system design and selection of process control methods. Introduction to quick changeover strategies and reprogrammable automation including numerically controlled machine tools, robotics, group technology, CAD/CAM, automated inspection and other computerized processing techniques.

Equivalent to MFGE-304, 181-304. P: MFGE-320, CADD-113; minimum grade of C.

MFGE-333 Polymer Processes 3 cr.

Fall and Spring Semesters

Polymer materials and properties, material testing, product design and evaluation, tooling components, processing methods, machine setup and operation. Equivalent to MFGE-358, 181-358. P: MECH-293, STAT-330, MFGE-275; minimum grade of C.

MFGE-343 Metal Casting, and Ceramic and Powder Metal Processes 2-3 cr.

Fall and Spring Semesters

Theory and practice of industrial metal casting, ceramic forming and powder metallurgy processes. Equivalent to MFGE-358, 181-358. P: MFGE-275, MECH-294, CHEM-341, STAT-330; minimum grade of C.

MFGE-359 Bulk and Sheet Forming Processes 3 cr.

Fall and Spring Semesters

Equivalent to 181-359, 181-396A. P: MECH-294, CHEM-341, STAT-330, MFGE-275; minimum grade of C.

MFGE-363 Controls and Instrumentation 3-4 cr.

Fall and Spring Semesters

Programmable logic controllers, structured ladder logic developments, input/output module description, and interfacing with analog and digital sensors and actuators. Motion, temperature, pressure and flow sensors. Advantages of closed loop control, mathematical modeling of electric and mechanical systems, stability analysis and frequency response. Introduction to motion control.

Equivalent to 184-363. P: ELEC-290, MATH-250; minimum grade of C.

MFGE-375 Joining and Fastening 4 cr.

Spring Semester

Welding of metals, ceramic, and plastic. Brazing and soldering of appropriate metals, set up and operate welding equipment. Thermal effects and destructive testing. Evaluation of adhesives and mechanical fasteners. Welding codes and ASTM standard comparative processing cost. Equivalent to 181-375. P: MECH-294, CHEM-341, MFGE-275, STAT-330; minimum grade of C.

MFGE-383 Coating, Finishing and Packaging 3 cr.

Fall and Spring Semesters

Coating, finishing, and packaging materials and processes. Concurrent product design and development. Equivalent to 181-383, 181-496B. P: MFGE-375, MFGE-359, MFGE-320, MFGE-333, MFGE-343; minimum grade of C.

MFGE-391 Fluid Mechanics 2 cr.

Fall, Spring and Summer

Fundamental fluid mechanics is presented. Fluid power components and measurement systems are presented. Fluid power systems are mathematically modeled. Fluid power circuits and circuit schematics are designed and analyzed. Fluid power dynamic behavior, in general terms, is discussed.

Equivalent to 184-322, 184-396B. P: MFGE-363; minimum grade of C.

MFGE-395 Seminar 1-2 cr.

Fall and Spring Semesters

(Title will reflect specific manufacturing content.) Designed to upgrade effectiveness of teachers or secondary school manufacturing content.

Equivalent to 181-595.

MFGE-405 Capstone I: Concurrent Design 2-3 cr.

Fall, Spring and Summer

Concurrent product design and development. Concept of design; brainstorming, problem solving, and creativity methods. Engineering methods. Design analysis, solid modeling, finite element analysis and information sources. Development of teamwork and communications skills. Consideration of cell needs and limitations. Equivalent to 181-405, 181-496A. P: MFGE-441; minimum grade of C.

MFGE-407 Flexible Manufacturing Systems 4 cr.

Fall and Spring Semesters

Investigate, design, justify and apply flexible manufacturing system components. Topics will include: robotic systems, material handling systems, and CAD/CAM/CNC applications and design of inspection systems.

Equivalent to 181-407, 181-396. P: MFGE-325; minimum grade of C.

MFGE-410 Capstone II: Manufacturing System Design 3 cr.

Fall and Spring Semesters

Dedicated and flexible manufacturing systems through the design, building and testing of a flexible manufacturing cell that produces a discrete family of parts, design of part transfer, tooling, sensing, production control and integrated inspection systems will be emphasized. Equivalent to 181-410. P: MFGE-383 MFGE-405, MFGE-407, MFGE-391; minimum grade of C.

MFGE-440 Manufacturing System Design and Simulation 3 cr.

Fall, Spring and Summer

Manufacturing system design using group technology and other techniques. System design evaluation using simulation software and other analysis tools and methods.

Equivalent to 181-440. P: MFGE-325, STAT-330; minimum grade of C.

MFGE-441 Design of Jigs, Fixtures, and Tooling 3 cr.

Fall, Spring and Summer

Design of tooling used for machining, locating and transferring multiple parts for fixed and flexible manufacturing. Design, setup and development of tooling for robots, computer numerical control machines and other production equipment. Transfer line tooling. Equivalent to 181-341, 170-511, 181-511. P: MFGE-320, CADD-113; minimum grade of C.

MFGE-489 Business and Industry Internship 1-8 cr.

Fall and Spring Semesters

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. Equivalent to 170-489, 181-489. R

MFGE-490 Manufacturing System Design Problems 1-3 cr.

Fall, Spring and Summer

Manufacturing system design through the application of previously learned principles and techniques. Issues to be addressed include: product design for manufacturability, process and tooling design and fabrication, system layout and equipment configuration, information and control architecture, implementation of quick-changeover strategies, task sequencing and scheduling, and simulation and evaluation of alternatives. Equivalent to 181-690.

MFGT Manufacturing Technology**MFGT-102 Manufacturing Materials and Processes I 3 cr.**

Fall and Spring Semesters

Material properties (*metals, plastics, elastomers, wood and composites*). Experiences in machining and forming processes such as turning, milling, shearing, drawing, electrical discharge machining, injection molding, extrusion, thermoforming, laminating, reaction injection molding. New developments and trends in materials and processing. Equivalent to MFGT-110, 170-102, 181-102.

MFGT-103 Manufacturing Materials and Processes II 3 cr.

Fall and Spring Semesters

Common materials used to manufacture products; experiences related to producing metal products by welding, forging, casting and powdered metal molding; application of finishing materials; molding products from ceramic materials; and fastening with adhesives and mechanical fasteners. New developments and trends in materials and processing.

Equivalent to MFGT-202, 170-103, 181-103.

MFGT-110 Materials and Manufacturing Processes 3 cr.

Fall and Spring Semesters

Manufacturing processes, material properties and their selection for product functions. Structure and characteristics of metal, polymer/wood, ceramic and composite materials will be examined.

Equivalent to MFGT-102, 170-102, 181-102.

MFGT-202 Welding and Casting Processes 3 cr.

Fall and Spring Semesters

Lab intensive class utilizing various processes and parameters in the welding and foundry areas. Equivalent to MFGT-103, 170-103, 181-103. P: MFGT-110.

MFGT-203 Machining Metal Forming Processes 3 cr.

Fall and Spring Semesters

Machine tool concepts providing an operational knowledge of traditional and non-traditional machining processes. Fundamental forming machine and hand tool operations. Sheet metal pattern development. P: MFGT-110.

MFGT-204 Polymer Processes 3 cr.

Fall and Spring Semesters

Introduction to properties of plastic, elastomeric and fiber-reinforced composite materials and the processes used to manufacture products from them. Primary and secondary manufacturing processes used to convert wood-fiber materials into components and/or finished products. P: MFGT-110.

MFGT-230 Metal Machining Technology 3 cr.

Fall and Spring Semesters

Basic machine tool concepts providing an operational knowledge of the lathe, milling machine, grinder, drill press and electrical discharge machine (EDM). Introduction to precision measurement techniques and instruments.

Equivalent to 170-230, 181-230. P: MFGT-102.

MFGT-303 Computer Aided Manufacturing 3 cr.

Fall and Spring Semesters

Justification for and application of computer assistance in manufacturing process; machine process control, inventory and materials handling, robotics and automated assembly, product design and part grouping in relation to total manufacturing operation. Equivalent to 170-504, 181-504.

MFGT-305 Robotics 2 cr.

Fall and Spring Semesters

Capabilities of and justification for industrial robots; lab work with robots and simulators in processing, assembly and materials handling.

Equivalent to 170-505, 181-505. P: MFGT-303 CS-141.

MFGT-308 Industrial Metrology 3 cr.

Fall, Spring and Summer

Measurement of heat, moisture, speed, fluid flow, material properties, and angular and linear dimensions for parts production and process control. Theory and application with major emphasis on dimensional metrology. Introduction to statistical process control and non-destructive testing. Junior level or higher. Equivalent to 170-508, 181-508. P: MFGT-102.

MFGT-310 Manufacturing Systems 3 cr.

Dedicated, flexible and standard manufacturing systems. Selection and application of standard production components and tooling to produce and evaluate a given product. Emphasis on integrated inspection, part transfer, production and robot application. Equivalent to 170-510, 181-510.

MFGT-315 Metallurgy 3 cr.

Fall and Spring Semesters

Properties of crystalline solids, production of iron and steel, the carbon-iron equilibrium diagram, principles of heat treatment, properties of ferrous alloys. Production, properties, and theory of the most important non-ferrous metals and alloys. Equivalent to 170-515, 181-515.

MFGT-337 Numerical Control in Manufacturing 1-3 cr.

Fall and Spring Semesters

Investigation and justification of numerical control of machine tools; types of control units and systems, feedback systems, manuscript writing and manual programming, tape punching and machine set up, fixture design and tool setting; working knowledge of basic machining processes recommended.

Equivalent to 170-537, 181-537. P: MFGT-102 or MFGT-303.

MFGT-340 Plastics Processing 3 cr.

Fall, Spring and Summer

Injection molding process control, material properties, statistical process control, and basic product and mold design. Basic thermoforming processes and product design; profile, sheet, and film extrusion; blow molding processes; and resin composite materials and molding processes.

Equivalent to 181-340. P: MFGT-102.

MFGT-345 Design and Simulation of Manufacturing Cells 3 cr.

Fall and Spring Semesters

Applied manufacturing system design and evaluation. Group technology approach. Computer assisted coding and classification. Development of part families. Efficient design of manufacturing cells. Evaluation of manufacturing system designs using simulation and other techniques. Basic statistics and computer programming abilities desirable. Equivalent to 170-540, 181-540.

MFGT-357 Metal Casting Processes 3 cr.

Fall and Spring Semesters

Development of selected metal casting processes through design, pattern construction and casting. Select casting processes for production applications. The role of computers and robots as tools of the casting industry. Visual and metallurgical analysis of castings. Equivalent to 170-357, 181-357.

MFGT-365 Production Welding Technology 3 cr.

Fall and Spring Semesters

Fundamental concepts of welding and cutting processes. Set-up and/or operational knowledge of common welding and cutting processes. Metallurgical effects of welding on metals and tests for welds. Operational knowledge of robots in welding, welding codes and symbols. Equivalent to 170-365, 181-365.

MFGT-400 Workshop: 1-3 cr.

Fall, Spring and Summer

Special topics manufacturing, providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop.

Equivalent to 181-600. R

MFGT-489 Business and Industry Internship 1-8 cr.

Fall and Spring Semesters

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. Equivalent to 170-489, 181-489. R

MSCS Math, Statistics and Computer Science**MSCS-344 Graph Theory With Applications in Computer Science 3 cr.**

Fall and Spring Semesters

Principles of graph theory, computer representation of graphs, properties of general graphs, structure and properties of special graphs, flow networks, computer applications of graph theory, algorithms and complexity analysis.

Equivalent to 354-344. P: CS-341.

MSCS-390 Topics 1-2 cr.

Topics of current importance in applications of mathematics to problems in business, industry, government or society. May be repeated for additional credit with consent of program director. Equivalent to 354-590. R

MSCS-446 Numerical Analysis I 3 cr.

Theory and applications of numerical methods for linear algebra, non-linear equations and polynomial interpolation. Equivalent to 354-446. P: MATH-158, MATH-275, and CS-145.

MSCS-447 Numerical Analysis II 3 cr.

Theory and applications of numerical methods for approximation, numerical integration and differentiation, differential equations, and Fourier analysis. Equivalent to 354-447. P: MSCS-446, MATH-255.

MSCS-475 Applied Mathematics Internship 2-8 cr.

Fall, Spring and Summer

Off-campus work and study in approved position to gain experience in using computer and/or statistical techniques in the analysis and solution of real-world problems. Interns receive salaried appointments with cooperating companies for summer or summer plus one semester. Junior level or higher.

Equivalent to 354-475. R

MSCS-490 Mathematical Models I 2 cr.

Fall Semester

Supervised experiences in construction of mathematical models for the solution of problems in area of student's needs and interests; resource materials. Senior level or higher. Applied Mathematics and Computer Science majors only.

Equivalent to 354-490.

MSCS-491 Mathematical Models II 2 cr.

Spring Semester

Continuation of MSCS-490. Equivalent to 354-491. P: MSCS-490.

MUSIC Music**MUSIC-101 Class Piano I 1 cr.**

GEHUM CRPRF Fall and Spring Semesters

Group instruction in piano technique and repertoire at beginner level. One one-hour lesson per week; additional practice time required. Equivalent to 360-101.

MUSIC-102 Class Voice I 1 cr.

GEHUM CRPRF Fall, Spring and Summer

Group instruction in vocal technique. Solo performance in class.

Equivalent to 360-102. R

MUSIC-111 Advanced Piano I 1 cr.

Fall and Spring Semesters

Private instruction in piano technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. Equivalent to 360-111.

MUSIC-112 Advanced Voice I 1 cr.

Fall and Spring Semesters

Private instruction in vocal technique and repertoire. One 1/2-hour lesson per week; additional practice time required; optional recital. Equivalent to 360-112.

MUSIC-130 Music Appreciation 2 cr.

GEHUM ARTMU Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from medieval times to present; students gain significant awareness of great music. Students do not earn credit for both MUSIC-130 and MUSIC-132.

Equivalent to MUSIC-132, 360-132, 360-130.

MUSIC-132 Music in Our World 3 cr.

GEHUM ARTMU ESC Fall, Spring and Summer

Music materials as they pertain to perceptive listening; music and musicians from the beginnings of music to the present. Great music from many cultures. Students do not earn credit for both MUSIC-130 and MUSIC-132.

Equivalent to MUSIC-130, 360-132, 360-130.

MUSIC-201 Class Piano II 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Continuation of MUSIC-101 at intermediate level. One one-hour lesson per week; additional practice time required. Equivalent to 360-201.

MUSIC-206 Music for the Young Child 2 cr.

Fall and Spring Semesters

Music elements and experience, methods and materials for guiding the musical growth of children from birth through third grade.

Equivalent to 360-204, 360-206. P: MUSIC-101.

MUSIC-211 Advanced Piano II 1 cr.

Fall and Spring Semesters Continuation of MUSIC-111. Equivalent to 360-211.

MUSIC-212 Advanced Voice II 1 cr.

Fall and Spring Semesters Continuation of MUSIC-112. Equivalent to 360-212.

MUSIC-264 Jazz Band 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Jazz styles and improvisation from the dance band era to the present. Study and performance of contemporary "big band" jazz. Membership is open to all qualified students. Instructor's consent required. Membership by audition. Equivalent to 360-264. R

MUSIC-265 University Choir 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Advanced choral techniques, reading and analysis of choral music of all types and periods. Concert and radio appearances. Equivalent to 360-265. R

MUSIC-266 Concert Band 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Fundamentals of musical expression, tone production and quality, and special problems of technique. Membership by audition only. Equivalent to 360-266. R

MUSIC-267 Symphonic Singers 1 cr.

GEHUM CRPRF Fall and Spring Semesters

Advanced choral techniques, reading and analysis of choral music of all types and periods. Membership by audition only. Equivalent to 360-267. R

MUSIC-268 Solo and Ensemble 1 cr.

Fall and Spring Semesters

Coaching of advanced vocal and instrumental performers for public performance. Equivalent to 360-268. R

PE Physical Education and Athletics**PE-101 Aerobic Dance 1 cr.**

GEHPE ACTV Fall and Spring Semesters

Introduction to aerobic dance as a technique for the development of physical fitness. Equivalent to 367-101, 467-101.

PE-103 Archery/Beginning 1 cr.

GEHPE ACTV Fall and Spring Semesters Equivalent to 367-103, 467-103.

PE-105 Bow Hunting 1 cr.

GEHPE ACTV Fall Semester

Conservation, safety, selection and care of equipment; techniques and practical bow hunting experience. Equivalent to 367-105, 467-105.

PE-107 Badminton 1 cr.

GEHPE ACTV Fall and Spring Semesters Equivalent to 367-107, 467-107.

PE-109 Basketball 1 cr.

GEHPE ACTV Fall Semester Equivalent to 367-109, 467-109. R

PE-110 Bicycling 1 cr.

GEHPE ACTV Fall, Spring and Summer

Bicycling for health and fitness: safety, technique, and knowledge.

Equivalent to 367-110, 467-110.

PE-113 Bowling 1 cr.

GEHPE ACTV Fall and Spring Semesters

Equivalent to 367-113, 467-113, 368-128A. \$

PE-115 Canoe Techniques 1 cr.

GEHPE ACTV Fall and Spring Semesters Equivalent to 367-115, 467-115. \$

PE-120 Self-Paced Personal Fitness 1 cr.

GEHPE

Improvement of personal physical fitness through self-paced exercise programs and fitness activities. Equivalent to 467-120.

PE-121 Exercise for Fitness 1 cr.

GEHPE ACTV Fall, Spring and Summer Equivalent to 367-121, 467-121.

PE-129 Golf 1 cr.

GEHPE ACTV Fall, Spring and Summer

Fundamental principles of golf; skills, history, etiquette and application of techniques. Required: play 27 holes of golf, pay greens fees, furnish three golf balls for class use. Equivalent to 467-129, 367-260, 467-260. \$

PE-132 Horseback Riding – Beginning Western 1 cr.

GEHPE ACTV

Western horsemanship: basic body position and control at the walk, trot and lope. Equivalent to 367-132, 367-149, 467-132. \$

PE-133 Horseback Riding – Beginning English 1 cr.

GEHPE ACTV Fall and Spring Semesters

Equivalent to 367-133, 367-150, 467-133, 367-150. \$

PE-134 Horseback Riding-Intermediate English 1 cr.	PE-163 Swimming/Beginning 1 cr.
GEHPE ACTV English riding skills: serpentines and figure eights at advanced gaits, simple lead changes, side pass and turns on the forehand and haunches. Equivalent to 367-134, 367-151, 367-129, 467-134. \$	GEHPE ACTV Fall and Spring Semesters Equivalent to 367-163, 467-163.
PE-135 Walking/Jogging 1 cr.	PE-165 Swimming/Intermediate 1 cr.
GEHPE ACTV Fall and Spring Semesters The study and practice of walking/jogging as an exercise philosophy, as an exercise technique and an exercise program. Equivalent to 467-135, 367-135.	GEHPE ACTV Fall and Spring Semesters Equivalent to 367-165, 467-165.
PE-140 Map and Compass 1 cr.	PE-167 Swimming/Advanced 1 cr.
GEHPE ACTV Fall Semester Equivalent to 467-140. \$	Equivalent to 367-167, 467-167.
PE-142 Outdoor Skills 1 cr.	PE-173 Skin and Scuba Diving 1 cr.
GEHPE ACTV Fall and Spring Semesters Equivalent to 367-142, 467-142. \$	GEHPE ACTV Fall, Spring and Summer Equivalent to 467-173, 367-173. \$
PE-144 Personal Defense 1 cr.	PE-176 Tennis/Beginning 1 cr.
GEHPE ACTV Fall, Spring and Summer Development of physical fitness for defense consciousness; techniques of initial and basic defense skills in weapon and rape attacks. Equivalent to 367-144, 467-144.	GEHPE ACTV Fall, Spring and Summer Equivalent to 367-176, 467-176.
PE-145 Practicum in Intercollegiate Athletics 1 cr.	PE-178 Tennis/Intermediate 1 cr.
GEHPE ACTV Fall and Spring Semesters Practical experience in intercollegiate athletics, including completion of a season as a member of an intercollegiate team. Equivalent to 467-145, 367-145. P: PE-200. R	GEHPE ACTV Fall, Spring and Summer Equivalent to 367-178, 367-177, 467-178. R
PE-146 Racquetball/Beginning 1 cr.	PE-180 Track and Field .5 cr.
GEHPE ACTV Fall and Spring Semesters Equivalent to 367-146, 467-146.	GEHPE ACTV Spring Semester Equivalent to 367-180, 467-180. R
PE-147 Racquetball/Intermediate .5 cr.	PE-182 Tumbling 1 cr.
GEHPE ACTV Fall and Spring Semesters Equivalent to 367-147, 467-147.	GEHPE ACTV Spring Semester Lab course to develop tumbling skills: forward, backward and sideways rotational, springing and vaulting movements from hands and feet; basic to advanced aerial tumbling. Equivalent to 367-182, 467-182.
PE-148 Relaxation 1 cr.	PE-185 Volleyball 1 cr.
GEHPE ACTV Fall and Spring Semesters Equivalent to 467-148, 367-148.	GEHPE ACTV Fall and Spring Semesters Equivalent to 367-185, 467-185. R
PE-150 Snowboarding 1 cr.	PE-187 Weight Training 1 cr.
GEHPE An introduction to the skills and safety aspects basic to snowboarding. Equivalent to 467-150. \$	GEHPE ACTV Fall, Spring and Summer Equivalent to 467-187, 367-187.
PE-152 Skiing 1 cr.	PE-189 Wrestling .5 cr.
GEHPE ACTV Spring Semester Equivalent to 367-152, 467-152. \$	GEHPE ACTV Spring Semester Equivalent to 367-189, 467-189. R
PE-153 Skiing – Cross Country 1 cr.	PE-200 Orientation to Intercollegiate Athletics 1 cr.
GEHPE ACTV Spring Semester Selection of equipment, waxing; flatland, uphill and downhill techniques and touring experiences in Nordic skills. Equivalent to 367-153, 467-153. \$	Fall and Spring Semesters Introduction to intercollegiate athletics, including NCAA and conference regulations; current issues, such as professional sports, costs, drugs, Title IX, minority issues and ethics; components of athletic programs; physiology of exercise; and psychology of sport. Equivalent to 467-200.
PE-156 Soccer 1 cr.	PE-241 Advanced Lifesaving 1 cr.
GEHPE ACTV Fall, Spring and Summer The development and improvement of the skills and tactics required in the sport of soccer. Equivalent to 367-156, 467-156.	Fall Semester Red Cross training program in knowledge and skills needed to save one's own or another's life in an emergency. Equivalent to 367-241, 467-241.
PE-159 Softball 1 cr.	PE-265 Physical Activities for Young Children 2 cr.
GEHPE ACTV Spring Semester The development and improvement of the skills required in the sport of softball. Equivalent to 367-159, 467-159.	Fall and Spring Semesters Sequential development of physical perceptual skills in children, birth to age 5; perceptual motor activities that promote development. Equivalent to 467-265, 367-265.

PE-342 Water Safety Instructor 2 cr.

Spring Semester

ARC training course. Teaching and testing of swimming, lifesaving skills and knowledge of water safety; theoretical and practical knowledge and assistance in teaching of Red Cross lifesaving and water safety courses.

Equivalent to 367-342, 467-342.

PE-345 Basketball Officiating 1 cr.

Fall Semester

Rules and officiating techniques for men's and women's basketball; preparation for DGWS and/or WIAA officiating certifications.

Equivalent to 367-345, 467-345.

PE-346 Football Officiating 1 cr.

Fall Semester

Application of football officiating rules and techniques.

Equivalent to 367-346, 467-346.

PE-347 Wrestling Officiating 1 cr.

Fall Semester

Rules and techniques of wrestling officiating. Equivalent to 367-347, 467-347.

PE-350 Principles of Physical Education and Athletics 2 cr.

Fall Semester

Principles of physical education based on scientific facts and educational ideals; aims and objectives of physical education at various school levels.

Equivalent to 367-350, 467-350. P: BIO-132.

PE-352 Theory and Management of Coaching 2 cr.

Fall Semester

Current management principles and practices applied to the profession of coaching. Equivalent to 467-352.

PE-360 Problems in Athletics 2 cr.

Spring Semester

Identification, interpretation and discovery of solutions for problem areas in athletics: human relationships, intellectual strategies, competitive unity, sex discrimination and sport characteristics. Equivalent to 367-360, 467-360.

PE-362 Psycho-Social Aspects of Athletics 2 cr.

Spring Semester

Examination of the psychology of sport and human movement. Understanding motivation, individual differences and social influence. Equivalent to 467-362.

PE-401 Coaching Gymnastics 2 cr.

Spring Semester

Elements of gymnastic tumbling and use of gymnastic apparatus as part of a modern physical education program. Equivalent to 367-401, 467-401.

PE-450 Organization and Administration of Physical Education 2 cr.

Fall Semester

Everyday problems encountered by physical education instructors, relationship of physical education to general education, objectives of physical education; utilization, planning and care of facilities and equipment; time allotment, classification of activities and children, leadership, organization, supervision, routine procedures. Equivalent to 367-450, 467-450.

PE-460 Coaching Basketball 2 cr.

Spring Semester

Fundamentals and methods of teaching and coaching basketball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. Equivalent to 367-460, 467-460.

PE-461 Coaching Football 2 cr.

Fall Semester

Fundamentals and methods of teaching and coaching football, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. Equivalent to 367-470, 467-461.

PE-465 Coaching Competitive Swimming 2 cr.

Spring Semester

Principles and techniques of coaching competitive swimming. Instructor's consent required. Equivalent to 467-465, 367-465.

PE-470 Coaching Baseball 2 cr.

Spring Semester

Fundamentals and methods of teaching and coaching baseball, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. Equivalent to 367-470, 467-470.

PE-471 Coaching Track and Field 2 cr.

Spring Semester

Fundamentals and methods of teaching and coaching track and field, definite plan of offense and defense, selected techniques analyzed, rules and practice schedules, theories and their applications. Equivalent to 367-471, 467-471.

PE-477 Coaching Tennis 2 cr.

Fall and Spring Semesters

Coaching strategies; philosophy, communication, motivation, diet, training and conditioning, singles and doubles. Budgets, competition planning and evaluation techniques are included. Instructor's consent required.

Equivalent to 367-477, 467-477.

PE-478 Coaching and Officiating Volleyball 2 cr.

Fall Semester

Skills and techniques of coaching and officiating competitive volleyball. Instructor's consent required. Equivalent to 367-478, 467-478. P: PE-185.

PE-479 Coaching Wrestling 2 cr.

Fall Semester

Philosophies and methods of teaching and coaching wrestling skills; organization and administration of competitive wrestling programs; and theories of wrestling coaching strategies. Equivalent to 367-479, 467-479.

PE-480 Coaching Youth Athletes 2 cr.

Fall, Spring and Summer

Coaching strategies for organized non-varsity youth sports programs—philosophy, psychology, physiology, pedagogy, prevention and care of injuries, and legalities. Equivalent to 367-480, 467-480.

PE-481 Coaching Hockey 2 cr.

Fall and Spring Semesters

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive hockey skills and strategies; organizing and administering hockey programs at all age levels. Sophomore level or higher. Equivalent to 467-481.

PE-482 Coaching Softball 2 cr.

Fall and Spring Semesters

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive softball skills and strategies; organizing and administering softball programs at all age levels. Sophomore level or higher.

Equivalent to 467-482.

PE-483 Coaching Soccer 2 cr.

Fall and Spring Semesters

Philosophies, fundamentals and methods of teaching and coaching offensive and defensive soccer skills and strategies; organizing and administering soccer programs at all age levels. Sophomore level or higher. Equivalent to 467-483.

PE-490 Practicum in Coaching 1-3 cr.

Fall and Spring Semesters

On- or off-campus work and study in athletic coaching with competitive teams.

Equivalent to 367-490, 467-490.

PHIL Philosophy**PHIL-201 Introduction to Philosophy 3 cr.**

GEHUM PHIL

Fall and Spring Semesters

Introduction to the principal problem areas and history of philosophy, as well as to the nature of philosophical investigation. Equivalent to 365-201.

PHIL-205 Philosophy of Religion 3 cr.

GEHUM PHIL Fall Semester

Principal philosophical problems in the various dimensions of religious experience and belief. Equivalent to 365-305.

PHIL-215 Eastern Philosophy 3 cr.

GEHUM PHIL Spring Semester

Philosophies of India, China and Japan: Hinduism, Buddhism, Confucianism, Taoism and Zen Buddhism. Equivalent to 365-315.

PHIL-235 General Ethics 3 cr.

GEHUM PHIL Fall, Spring and Summer

Ethical valuing process: principal ethical theories and their application to common human problems. Equivalent to 365-335.

PHYS Physics**PHYS-151 Astronomy 3 cr.**

GENSCI PHYS LAB Fall and Spring Semesters

The solar system, stars, galaxies and the universe. Physical processes and observational methods. Equivalent to 372-151.

PHYS-211 Introduction to Physics 3 cr.

GENSCI PHYS Fall Semester

Introduction to principles of physics, including mechanics, fluids, heat and thermodynamics, light and sound, electricity and magnetism; their applications to specific technologies. Equivalent to 372-211.

PHYS-212 Introduction to Physics: Lab 1 cr.

GENSCI PHYS LAB Fall, Spring and Summer

Measurement, analysis and presentation of laboratory data on basic physics concepts, including mechanics, fluids, heat, electricity, light and sound.

Equivalent to 372-212. Corequisite: PHYS-211.

PHYS-222 Heat and Thermodynamics 2 cr.

Fall, Spring and Summer

Concepts of temperature and heat, temperature-dependent properties and processes, heat transfer; laws relating heat and other forms of energy.

Equivalent to 372-222. P: PHYS-231.

PHYS-231 General Physics I 4 cr.

GENSCI PHYS LAB Fall, Spring and Summer

Algebra- and trigonometry-based general physics course: mechanics and sound with laboratory. Equivalent to 372-231. P: MATH-121.

PHYS-232 General Physics II 4 cr.

GENSCI PHYS LAB Fall, Spring and Summer

Algebra- and trigonometry-based general physics course: mechanics and sound with laboratory. Equivalent to 372-232. P: PHYS-231.

PHYS-241 College Physics I 5 cr.

GENSCI PHYS LAB Fall, Spring and Summer

Calculus-based general physics course: mechanics and thermodynamics with laboratory. Equivalent to 372-241. P: MATH-153 or MATH-156.

PHYS-242 College Physics II 5 cr.

GENSCI PHYS LAB Fall, Spring and Summer

Calculus-based general physics course: electricity, sound, light and selected topics in modern physics with laboratory. Equivalent to 372-242. P: PHYS-241.

PHYS-250 The Physics of Light and Color 3 cr.

GENSCI PHYS LAB Fall and Spring Semesters

Properties, sources and perception of light are examined through lectures and laboratory activity. Topics considered are: color systems and vision, optical devices and phenomena; and image formation and appearance.

Equivalent to 372-250. P: MATH-118, MATH-120 or MATH-123.

PHYS-251 Topics in Astronomy 1 cr.

GENSCI PHYS Fall Semester

Qualitative analysis emphasizing physical principles of selected topics in astronomy. Significance of modern methods of obtaining astronomical information. Equivalent to 372-251.

PHYS-255 Meteorology 2 cr.

GENSCI PHYS Fall and Spring Semesters

Physical processes that determine properties of the earth's atmosphere: precipitation, atmospheric circulation, weather, climate and human influence on the atmosphere in the framework of physics. Equivalent to 372-255.

PHYS-257 Introduction to Geology and Soil Mechanics 3 cr.

Fall, Spring and Summer

Physical processes involved in rock formation, mountain building, erosional landscapes, plate tectonics, earthquakes and geologic dating. Elementary soil mechanics. Equivalent to 372-257, 372-254.

PHYS-258 Introduction to Geology 2 cr.

GENSCI PHYS Fall and Spring Semesters

Composition of the earth and its physical processes, including geologic time, rocks and minerals, raw resources and energy, volcanism, earthquakes, streams and groundwater, weathering, glaciation, shorelines, deserts, wind, and planetary geology.

PHYS-281 University Physics I 5 cr.

GENSCI PHYS LAB Spring Semester

Calculus-based general physics course: mechanics and thermodynamics with laboratory.

Equivalent to 372-281. P: MATH-154 or MATH-157. Corequisite: MATH-157.

PHYS-282 University Physics II 5 cr.

GENSCI PHYS LAB Fall Semester

Calculus-based general physics course: electricity, sound, light, and selected topics in modern physics with laboratory. Equivalent to 372-282. P: PHYS-281.

PHYS-321 Statics and Strength of Materials 4 cr.

Fall, Spring and Summer

Force and moment equilibrium including friction, trusses, frames and machines. Simple and compound stress and strain including beams and joints. No credit for students taking PHYS-325 or PHYS-331. Equivalent to PHYS-325, PHYS-331, 372-321, 372-225, 372-325, 372-531. P: PHYS-241 or PHYS-281.

PHYS-325 Strength of Materials 3 cr.

Fall, Spring and Summer

Fundamental theory of strength of materials. Analysis of tension, compression, shear, biaxial tension and compression, torsion, stresses and deflection of beams. Equivalent to PHYS-321, PHYS-331, 372-321, 372-225, 372-325, 372-531. P: PHYS-231, MATH-153 or MATH-156; or PHYS-241; or PHYS-281.

PHYS-327 Solid State Physics 3 cr.

Spring Semester

Crystalline structure, lattice vibration and energy states, Brillouin zones, electrons in metals, semi-conductors, and dielectric and magnetic properties of solids. Equivalent to 372-527. P: PHYS-282 or PHYS-242; and MATH-157 or MATH-154.

PHYS-329 Atomic and Nuclear Physics 3 cr.

Fall Semester

Elements of atomic and nuclear physics. Equivalent to 372-529. P: PHYS-282; or PHYS-242 and MATH-154 or MATH-157.

PHYS-331 Statics 3 cr.

Fall Semester

Essential elements of statics: simple force system, theory and application of non-concurrent forces, couples, friction, non-coplanar forces, trusses and other structures. Equivalent to PHYS-321, PHYS-325, 372-321, 372-225, 372-325, 372-531. P: PHYS-241 or PHYS-281.

PHYS-333 Dynamics 3 cr.

Spring Semester

Essential elements of dynamics: rectilinear, angular and harmonic motions; forces producing motion, work, energy, acceleration, impulse and momentum. Equivalent to 372-533. P: PHYS-331.

PHYS-335 Optics 3 cr.

Spring Semester

Optics with emphasis on the wave nature of light: interference, diffraction, polarization and coherence; their applications in holography. Equivalent to 372-535. P: PHYS-282; or PHYS-242 and MATH-154 or MATH-157.

PHYS-351 Astrophysics 3 cr.

Fall, Spring and Summer

Quantitative and qualitative study of the solar system, stars, galaxies and the universe. Physical processes and observational methods and analysis. Equivalent to 372-351. P: PHYS-282 or PHYS-242.

PHYS-380 Electromagnetic Fields 3 cr.

Fall Semester

Development and application of the theory of electromagnetic fields; analysis of the electromagnetic properties of materials and Maxwell's equations.

Equivalent to 372-380. P: PHYS-282 or PHYS-242, and MATH-255. Corequisite: MATH-255.

PKG Packaging**PKG-100 Packaging and Society 2 cr.**

GETECH Fall and Spring Semesters

A broad overview of the importance of packaging in society. Introduction to packaging and its interrelationship to multiple disciplines including impact on people and the environment. Equivalent to 181-200.

PKG-150 Packaging Fundamentals 2 cr.

Fall and Spring Semesters

Relationship to marketing and consumer behavior, control through legal and industrial regulations, function within larger organization, roles of professional engineer, packages and their function. Equivalent to 170-280, 181-280.

PKG-200 Packaging Materials 3 cr.

Fall and Spring Semesters

Origin, composition, properties and application of packaging materials; lab work in packaging and materials testing methods.

Equivalent to 170-315, 181-315. P: PKG-150.

PKG-250 Consumer Packaging Systems 3 cr.

Fall and Spring Semesters

The study of packaging from the design concept through production. Lab work on structural design, sample making, and machine operation. Discussions on standard packages and their applications. Equivalent to 170-380, 181-380.

PKG-260 Distribution Packaging 3 cr.

Fall and Spring Semesters

Packaging systems to support the distribution functions. Topics will include shipping containers, palletizing, unitizing, barrier problems, marking and coding for shipment, freight regulations, military specifications and hazardous materials regulations.

Equivalent to 170-381, 181-381. P: PKG-150, PKG-200, PKG-250.

PKG-335 Packaging Machinery 3 cr.

Spring Semester

Equipment that measures, forms, fills, seals, cartons, cases, uncases and labels; functional capabilities of speed, material characteristics, carton size and operating characteristics. Equivalent to 170-385, 181-385.

PKG-350 Packaging Design and Evaluation 3 cr.

Fall and Spring Semesters

Chemical and physical protection problems; materials, structure, graphics and regulations in package design; shock and vibration forces in package evaluation; practical applications of evaluation using electronic instrumentation.

Equivalent to 170-480, 181-480. P: PKG-250, PKG-260.

PKG-489 Business and Industry Internship 1-8 cr.

Fall and Spring Semesters

Off-campus work and study in student's area of concentration; approved salaried position with cooperating company for a semester or summer session. Junior level or higher. Equivalent to MFGE-489, MFGT-489, 170-489, 181-489. R

PKG-490 Packaging Development 3 cr.

Fall and Spring Semesters

Applications of packaging functions: developing a product's complete packaging system, from final production of product to consumer.

Equivalent to 170-580, 181-580. P: PKG-350.

PKG-495 Packaging Seminar 2 cr.

Fall and Spring Semesters

Current packaging problems or developments (*subject based on students' interests and current issues*). Equivalent to 170-585, 181-585.**POLS Political Science****POLS-210 American Government 3 cr.**

GESBSCI POLS ESB Fall, Spring and Summer

Structures and processes of national, state and local government in the United States; constitutional framework, political theory and ideology, racial and ethnic dimensions of U.S. political culture, civil rights, media, voting, parties, elections, interest groups, and policy making. Comparisons with selected foreign governments. Equivalent to 375-210, 375-210.

POLS-220 State and Local Government 3 cr.

State and local governments within U.S. federal system. Equivalent to 375-220.

POLS-250 Politics and Technology 3 cr.

GETECH Fall and Spring Semesters

Analysis of the interfacing of technology and politics, focusing on the dynamics of the public policy process involving selected technologies, events, issue groups and governmental institutions. Equivalent to 375-250.

POLS-260 Problems of U.S. Foreign Policy 3 cr.

Analysis of U.S. foreign policy objectives and decision making; problems of national defense, Third World relationships, economic and resource policies, Presidential/Congressional authority, intelligence operations and public opinion. Equivalent to 375-260.

POLS-270 Introduction to Comparative Government 3 cr.

Analysis and comparison of basic political principles, institutions and problems of major Western, Communist and underdeveloped nations; consideration of alternative approaches to political order and change. Equivalent to 375-270.

POLS-310 Political Parties and Elections 3 cr.

Analysis of modern political parties. Nominating methods, campaigns, elections. Practical politics in legislative bodies; machines and bosses.

Equivalent to 375-310. P: POLS-210.

POLS-315 Public Policy Analysis 3 cr.

Fall and Spring Semesters

Analysis of origins of public policy and policy-making process. Specific case studies of public policy. Equivalent to 375-510. P: POLS-210.

POLS-340 International Relations 3 cr.

GESBSCI POLS Fall and Spring Semesters

The global political system; influence of technology, ideology, ethnicity, national interests, power, morality, multinational business, international organizations, and economic, demographic and ecological patterns; approaches to managing war, violence, economic relations, global pollution and other international problems. Equivalent to 375-340.

POWER Power**POWER-103 Power Mechanics 2 cr.**

Fall, Spring and Summer

Internal and external combustion heat engines, mechanical and fluid transmission systems; present and future applications and limitations. Laboratory work emphasized. Equivalent to 110-103, 185-103.

POWER-260 Introduction to Fluid Power 2 cr.

Fall, Spring and Summer

Basic fluid mechanics, pneumatics, hydraulics, control systems and common industrial circuits. Equivalent to 185-260, 110-260.

POWER-303 Mechanical Power Transmission 3 cr.

Fall and Spring Semesters

Fundamentals of mechanical power transmission: theory of operation, selection of components, suggestions for application, and analysis of systems.

Equivalent to 185-303, 110-303.

POWER-361 Industrial Hydraulics 2 cr.

Fall Semester

Theory, operation and construction of hydraulic systems and circuits; pumps, reservoirs, lines, control valves and actuators. Equivalent to 185-361, 110-361.

POWER-362 Industrial Pneumatics 2 cr.

Spring Semester

Theory, operation and construction of pneumatic and pneumatic/hydraulic system components, with application to basic industrial circuits; compressors, plumbing, control valves and actuators. Equivalent to 185-362, 110-362.

POWER-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Equivalent to 185-595. R

PSYC Psychology**PSYC-100 Psychology Seminar I – Foundations 1 cr.**

Fall, Spring and Summer

An orientation activity for all students in their initial semester as a psychology program student. Information concerning psychology as a discipline, applied profession, and liberal arts program is presented. Career and graduate training opportunities are reviewed. Equivalent to 479-100.

PSYC-110 General Psychology 3 cr.

GESBSCI PSYC Fall, Spring and Summer

An introduction to psychology as a discipline and applied science. Emphasis is placed on scientific methodology as it is applied to behavior, learning, memory, perception, motivation, development, individual differences, mental health, the physiological basis for behavior, and on the application of psychological principles to human experience. Equivalent to 479-110, 479-123, PS-123.

PSYC-190 Psychological Research Methods 4 cr.

Fall and Spring Semesters

An introduction to research methods used in the behavioral sciences. Lecture and laboratory activities involve applications of methodologies and computer technologies to understand and produce research compatible with American Psychological Association standards. Equivalent to 479-190.

PSYC-210 Introduction to Applied Psychology 3 cr.**ESB** Fall, Spring and Summer

Introduction to the application of psychological theories, methods of investigation, and research findings to a diverse spectrum of social problems. Emphasis is placed on the use of scientific psychology to improve aspects of everyday life.

Equivalent to 479-210. **P:** PSYC-110.**PSYC-251 Child Psychology 3 cr.**

Fall, Spring and Summer

A study of the total psychological development of children emphasizing age groups spanning the pre-school and pre-pubescent child and methods for scientific measurement and understanding of child behavior.

Equivalent to 479-251, 479-352. **P:** PSYC-110.**PSYC-270 Social Cognition and Behavior 3 cr.**

Fall, Spring and Summer

Social factors affecting the behavior, thought processes, and attitudes of individuals. Includes attitude assessment and change, prejudice, interpersonal attraction, social influence, aggression, cognitive biases, and attributions.

Equivalent to 479-270. **P:** PSYC-110.**PSYC-281 Environmental Psychology 3 cr.**

Fall and Spring Semesters

Psychological aspects of person/environment interaction. People impacts on environment, and environmental impacts on people. Aspects of recreational environment, population density and stress factors.

Equivalent to 479-281. **P:** BIO-122 or BIO-150.**PSYC-298 Psychology Field Experience 2 cr.**Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems. Equivalent to 479-298. **R****PSYC-300 Psychology Seminar II 1 cr.**

Fall, Spring and Summer

The second level of seminar for psychology program students. Activities center on sharing knowledge and experience among faculty and students and on an assessment of the development of program level competencies by students.

Equivalent to 479-300. **P:** PSYC-100.**PSYC-320 Psychology: Its History and Systems 3 cr.**

Fall, Spring and Summer

History of psychology and influence of early competing schools of thought: structuralism, functionalism, behaviorism, Gestalt psychology, and psychodynamic psychology. Evolution to present as a diverse behavioral science with emphasis on neobehaviorism, humanistic psychology, and cognitive psychology. Equivalent to 479-520, 479-120. **P:** PSYC-110.**PSYC-330 Psychology of Learning 3 cr.**

Fall and Spring Semesters

A course designed to acquaint the student with the principles of learning drawn from experimental and theoretical psychology. These principles are demonstrated as they apply to animal and human learning. Modern viewpoints toward theories of learning are emphasized. Equivalent to 479-530.

PSYC-335 Motivation and Emotion 3 cr.

Fall and Spring Semesters

An experimentally oriented introduction to the fundamental principles of motivation and emotion. Equivalent to 479-535. **P:** PSYC-110, and nine credits from subject PSYC.**PSYC-340 Psychology of Individual and Group Differences 3 cr.****ESC** Fall and Spring Semesters

Nature and extent of differences if individuals and groups are studied. Intelligence, achievement, aptitudes, interests, attitudes, and general personality are the major differences included. Race, sex, nationality, social class and age in relation to individual differences are studied.

Equivalent to 479-540. **P:** PSYC-110, and two courses from subject PSYC.**PSYC-351 Children's Social Reasoning 3 cr.****ESC** Fall and Spring Semesters

Focused, in-depth study of social reasoning from birth through late childhood. Empathy, friendship, altruism, multicultural perceptions, shyness, assertiveness, aggression, loneliness, morality, values, and global responsibility. Heredity/environment-based theories. Assessment tools and prevention and intervention programs.

Equivalent to 479-551. **P:** PSYC-251, HDFL-124, HDFL-264 or PSYC-270.**PSYC-352 Adolescent Psychology 3 cr.**

Fall, Spring and Summer

The physical, emotional, social, moral, and intellectual development of secondary school youth. Equivalent to 479-552. **P:** PSYC-110.**PSYC-361 Abnormal Psychology 3 cr.**

Fall, Spring and Summer

A study of more serious mental disturbances. Emphasis on the growing importance of mental disorders and on their early detection and referral is studied. Equivalent to 479-561.

PSYC-370 Interpersonal Effectiveness Training 2 cr.

Fall, Spring and Summer

Training in effective interpersonal communication attitudes and skills for creating healthy relationships including self-awareness/self-expression, understanding others' communication, assertive rights/responsibilities, dealing with difficult emotions, conflict management/resolution and mediation, collaborative problem solving and teamwork, and gender differences in communication style. Equivalent to 479-570.

PSYC-371 Introduction to Health Psychology 3 cr.

Fall and Spring Semesters

Principles of psychology applied to the promotion of health and wellness; prevention of disease, injury and premature death; psychological treatment of illness; improvement of health care; and formation of health policies. Instructor's consent required. Equivalent to 479-571.

PSYC-372 Psychology of Sex and Gender 3 cr.**ESC** Fall and Spring Semesters

Differences and similarities between females and males; psychosocial implications on personal and political status and the resulting influence on identity and self-concept. Equivalent to 479-372.

PSYC-374 Psychology of Women 2 cr.

Fall and Spring Semesters

The myths and stereotypes of early psychoanalytic view of women, critical issues and events of female experience, from prenatal through adulthood; meaning of sexuality, contemporary life styles, and the meaning of aging.

Equivalent to 479-574. **P:** PSYC-110.**PSYC-375 The Psychology of Marriage and the Family 2 cr.**

Fall and Spring Semesters

A study of the interpersonal relations involved in dating, mating and family collaboration with growing awareness of patterns for self integration.

Equivalent to 413-571, 479-575.

PSYC-377 Consumer Psychology 3 cr.

Fall and Spring Semesters

Psychological principles and theories from the areas of motivation, perception, learning, attitude, information processing, personality, groups, organizational psychology, and environmental psychology are applied to the understanding of consumer behavior, consumer problems, and their solution.

Equivalent to 479-577. P: PSYC-110.

PSYC-379 Public Relations 2 cr.

Fall, Spring and Summer

Introduction to public relations in industry and education including community relations, employee relations, customer relations, media relations, tools of public relations, two-way communications, and special publics.

Equivalent to 479-579.

PSYC-381 Industrial Psychology 2 cr.

Fall and Spring Semesters

A survey of the application of psychological principles of man's vocational pursuit. Emphasis is on individual differences and group behaviors which are involved in personnel selection, human factors engineering, industrial safety, motivation, personnel training, and consumer behavior. Course material is based primarily upon the latest behavioral science research in the field of industrial psychology. Equivalent to 479-581. P: PSYC-110.

PSYC-382 Human Resource Management 3 cr.

Fall, Spring and Summer

Organization and coordination of personnel practices and methods. Consideration given to communication, employment, orientation and training, working conditions, supervision, performance evaluation, collective bargaining, salary administration, health and recreation. Equivalent to 479-582.

PSYC-390 Experimental Psychology 4 cr.

Fall, Spring and Summer

Experimental research methods used in basic and applied areas of psychology. Methodological issues introduced in context of actual research problems for integrated treatment of content and methodology. Students will apply this knowledge by participating in laboratory activities and designing and conducting their own experiments.

Equivalent to 479-390. P: STAT-130, PSYC-190.

PSYC-391 Applied Psychophysiological Methods 3 cr.

Theory, methods, laboratory procedures, and applications of physiological responses to psychological stimuli. P: BIO-132.

PSYC-398 Psychology Field Experience 2 cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems. Equivalent to 479-398. R

PSYC-400 Psychology Seminar III 1 cr.

Fall, Spring and Summer

The final seminar for psychology program students. Attention is given to the transition to graduate school and/or employment by students. Students develop and conduct an original investigation and report their findings in a formal research paper as a demonstration of their achievement of program competencies. Equivalent to 479-400. P: PSYC-300.

PSYC-401 Workshop: Special Topics in Psychology 1-3 cr.

Current specialized topics studied in a small group setting utilizing experimental activities. Instructor's consent required. Equivalent to 479-601. R

PSYC-403 Management of Employee Reward Systems 3 cr.

Fall Semester

Review of issues in the reward and compensation of employees and of systematic methods for the determination of employee wages, incentives and benefits. Psychological theories of motivation, external equity, job analysis, identifying compensable factors used in job evaluation, comparable worth and performance appraisal, individual salary determination.

Equivalent to 479-603. P: PSYC-382.

PSYC-432 Perception 3 cr.

Fall Semester

This course serves as an introduction to human perception. The content of the course is structured around an information processing model, with the sensory and memory facilities considered as information systems. The student will analyze perceptual research, become familiar with classical and modern psychophysical techniques and conduct experimentation in human information processing. Equivalent to 479-632.

PSYC-442 Cognitive Processes 3 cr.

Fall and Spring Semesters

Cognitive theories of attention, memory, language, reasoning and problem solving with applications to fields of education, vocational rehabilitation, gerontology, forensic, clinical and counseling psychology. P: PSYC-110.

PSYC-451 Children's Learning 3 cr.

Fall and Spring Semesters

Psychological study of basic learning processes in infants and young children. How and why learning occurs and how the course of learning can be modified; discussed from theoretical, research, and practical orientations including simple behavioral responses, concepts and language.

Equivalent to 479-451. P: PSYC-110.

PSYC-455 Myers-Briggs Type Indicator 3 cr.

Principles of Carl Jung's theory of psychological type are explored with the Myers-Briggs Type Indicator (MBTI). Applications in personal, interpersonal and organizational development; teaching/training and learning styles; collaborative problem solving; conflict; stress and time management.

Equivalent to 479-455, 479-655. P: 15 credits from subject PSYC.

PSYC-460 Personality and Mental Health 3 cr.

Fall and Spring Semesters

An introduction to the areas of psychology which are concerned with the recognition of the positive principles of mental health and their application to human behavior. In addition, an examination is made of a variety of theories which are representative of the major views of leading thinkers on the subject of personality and personality development. Equivalent to 479-460.

PSYC-466 Alcoholism and Family Systems Intervention 2 cr.

Spring Semester and Summer Session

The role of alcoholism in the family and how to intervene therapeutically.

Equivalent to 479-666, 413-666.

PSYC-473 Psychology of Stress 2 cr.

Fall, Spring and Summer

Nature of stress and stress-related diseases, stress in daily life, techniques for managing stress, and plans for reducing stress in personal and professional life.

Equivalent to 479-673.

PSYC-475 Right Brain 2 cr.

Spring Semester and Summer Session

The two hemispheres of the human brain. Exploration and experience in right hemisphere modes of consciousness, through techniques such as meditation, hypnosis, drawing, guided imagery and dreaming. Equivalent to 479-675.

PSYC-479 Advanced Public Relations 2 cr.

Fall and Spring Semesters

Practice in planning and directing specific public relations programs, using the case problem approach. Equivalent to 479-679. P: PSYC-379.

PSYC-480 Individual Research Project I 1 cr.

Fall, Spring and Summer

Preliminaries of active research through the development of a research proposal which includes the problem statement, review of the literature and the design of the research project. Equivalent to 479-480. P: PSYC-210, PSYC-390. R

PSYC-481 Individual Research Project II 1 cr.

Fall, Spring and Summer

Research in a personal area of interest within the behavioral sciences. Requirements include the completion of a research report which meets APA guidelines. Equivalent to 479-481. P: PSYC-480. R

PSYC-484 Introduction to Behavior Modification 2 cr.

Fall and Spring Semesters

An introduction to the applied analysis of behavior. Emphasis is placed on the fundamentals of behavior modification, models of behavior control, and applications in a variety of settings.

Equivalent to 479-484. P: Three courses from subject PSYC.

PSYC-485 Recruitment and Selection of Human Resources 3 cr.

Fall and Spring Semesters

In-depth examination of the processes involved in the design and implementation of procedures for selecting employees; the impact these procedures have on the organization; and recruitment, job analysis, testing methods, legal issues, selection strategies, career development.

Equivalent to 479-685. P: PSYC-382.

PSYC-490 Psychological Measurement 3 cr.

Fall and Spring Semesters

An introduction to the assumptions, models and applications of measurement techniques in behavioral science. Test analysis, item analysis, reliability, and validity are extensively covered. The course also introduces the student to prediction and measurement of attitudes and opinions. Equivalent to 479-690.

PSYC-493 Field Practicum in Public Relations Specialization 1-3 cr.

Fall, Spring and Summer

Opportunity to apply public relations principles in a practical setting. All coursework for the public relations specialization must be completed prior to the practicum that serves as a capstone for the specialization. Both setting and job description must be approved by the faculty supervisor.

Equivalent to 479-693. R

PSYC-498 Psychology Field Experience 2 cr.

Off-campus work and study in an approved position to better understand the major concepts of psychology as they are applied to help solve and prevent human relations type problems. Equivalent to 479-498. R

RC Risk Control**RC-271 Safety Principles and Practices 3 cr.**

Principles of accident prevention; school safety programs; identification of resources and content: motor vehicle, home, public, farm, industrial, school, recreational and civil defense. Equivalent to 140-271.

RC-301 Seminar 1 cr.

Fall and Spring Semesters

(Title will reflect specific business or management content.) Current topics in business and industrial management to meet specific needs of students enrolled. Equivalent to 140-501. R

RC-371 Alcohol, Drugs and Accident Prevention 3 cr.

Impact of alcohol and drug use on accident prevention programs; current efforts to rehabilitate alcohol and drug abusers. Equivalent to 140-574.

RC-372 Behavior Approach to Accident Prevention 3 cr.

Behavioral aspects of accident prevention from physiological, psychological, sociological and cultural perspectives; identifying, understanding and modifying attitudes and behavior. Equivalent to 140-575.

RC-374 Driver Education Laboratory Methods and Techniques 3 cr.

Role, aims and objectives of laboratory programs in driver and traffic safety education; multiple-student teaching techniques, simulation on-street behind-the-wheel and multiple-car driving range experiences provided.

Equivalent to 140-377, 140-374.

RC-375 Driver and Traffic Safety 3 cr.

Classroom phase of driver education: curriculum selection and use, instructional resources and materials, and driver education administration.

Equivalent to 140-375.

RC-381 Occupational Safety/Loss Control 2-3 cr.

Fall, Spring and Summer

Overview of occupational accident prevention programs: techniques of measurement, cost of accidents, locating and identifying accident sources, and problems of selecting corrective action. Junior level or higher. Equivalent to 140-581.

RC-383 Voluntary OSHA Compliance 2-3 cr.

Fall Semester and Summer Session

Implications of Federal Occupational Safety and Health Act of 1970 on industrial operations, systematic self-inspection and compliance procedures.

Equivalent to 140-583.

RC-386 Fire Protection 3 cr.

Spring Semester

Behavior of fire: chemistry, protection, prevention and control.

Equivalent to 140-586.

RC-387 Human Factors Engineering/Ergonomics 3 cr.

Fall Semester

Physiological and psychological abilities in human/machine interface, working performance, reliability, comfort and safety; effective design of people and work environment as a cybernetic system. Equivalent to 140-587.

RC-388 Construction Safety 2 cr.

Fall and Spring Semesters

Analysis of hazards, control procedures and systems related to typical construction equipment, tools and materials safety problems. Equivalent to 140-588.

RC-389 Fleet Risk Control Management 3 cr.

Spring Semester

Logistically-oriented management systems required to control risk in fleet operations including internal standards development/analysis, emergency response, accident analysis, loss benchmarking, driver selection and training, vehicle operation, substance abuse testing, hours of service, vehicle maintenance/inspection, route planning, cargo/personnel security, hazardous materials transportation, and regulatory controls.

Equivalent to 140-589. P: RC-381 or RC-388.

RC-390 Product/Service Liability 2 cr.

Spring Semester

An analysis of product liability losses, laws and controls. Equivalent to 140-590.

RC-392 Construction Risk Management 3 cr.

Analysis and application of fundamental process steps for construction job site risk management. Equivalent to 140-392. P: RC-388.

****RD Design, Research and Development******RD-100 Introduction to Industrial Technology 1 cr.**

Fall and Spring Semesters

Definition, history, and future of the industrial technology field and the present and emerging concentration areas. Business and industry links to options within industrial technology and the necessary preparation to meet graduates' future professional demands. Equivalent to 150-100, 150-196.

RD-205 Design for Industry 3 cr.

Fall and Spring Semesters

Industrial research and development experiences focusing on problems related to product development, innovation and problem solving, manual, semi-automatic and automatic production processes. Development and application of various systems for selection of materials and processing will be studied.

Equivalent to 170-205, 183-205.

RD-320 Prototype Development and Model Making 3 cr.

Spring Semester

Introduction to model making and prototype development/construction. Competencies are developed in converting design, research and development and other creative ideas into three-dimensional objects using traditional and non-traditional machining and forming techniques. Three-dimensional design problems form the core of this course.

Equivalent to 170-520, 130-532, 148-301, 183-520. P: MFGT-102.

RD-420 Research and Development 2 cr.

Fall and Spring Semesters

Research and development procedures applied to specific industrial material and processing problems. Equivalent to 170-620, 183-620.

RD-421 Research and Development Laboratory 1 cr.

Fall and Spring Semesters

This lab is taken in conjunction with RD-420 to allow students in technical majors to fulfill the requirements of the major research and design project.

Equivalent to 170-621, 183-621. Corequisite: RD-420.

REHAB Vocational Rehabilitation**REHAB-101 Introduction to Rehabilitation 3 cr.**

Fall and Spring Semesters

An introduction to serving people with disabilities. Philosophy, history, legislation, concepts and processes, and careers in rehabilitation services. Equivalent to 459-101.

REHAB-102 Community Resources 3 cr.

Fall and Spring Semesters

Role of community resources in rehabilitation. Equivalent to 459-102.

REHAB-198 Field Experience in Rehabilitation 1-2 cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers.

Equivalent to 459-198. P: REHAB-101. R

REHAB-205 Rehabilitation Practicum 3-4 cr.

Fall and Spring Semesters

Community based learning in application of rehabilitation concepts and principles. Includes weekly seminar for critique and skill development.

Equivalent to 459-205. P: REHAB-101 with a minimum grade of C, and REHAB-102 with a minimum grade C.

REHAB-230 Psychosocial Aspects of Disability 3 cr.

ESC Fall and Spring Semesters

Subjective, objective, ethnic/cultural, and environmental factors related to the disability experience. Equivalent to 459-230, 459-330. P: REHAB-101, BIO-220.

REHAB-298 Field Experience in Rehabilitation 1-2 cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various rehabilitation type careers.

Equivalent to 459-298. P: REHAB-101. R

REHAB-300 Special Topics in Rehabilitation 1-2 cr.

Special topics not available through regular courses. Equivalent to 459-500. R

REHAB-305 Sign Language I 3 cr.

GECOMSK LANG Fall Semester

Basic course in manual communication with persons who are deaf. Intensive practice in expressive and receptive communication. Equivalent to 459-505.

REHAB-306 Sign Language II 3 cr.

GECOMSK LANG Spring Semester

Intermediate course in manual communication with persons who are deaf. American sign language and increasing sign vocabulary and communication speed. Equivalent to 459-506. P: REHAB-305.

REHAB-309 Introduction to Biofeedback 3 cr.

Spring Semester

Theory and applications of biofeedback in psychology, rehabilitation, medicine and education; in-depth review of the field; appropriate uses of biofeedback as a referral possibility; preparation for supervised clinical biofeedback experience. Equivalent to 459-509.

REHAB-310 Vocational Evaluation 3 cr.

Fall and Spring Semesters

Development of an individualized approach to conducting vocational evaluations with individuals with disabilities. Skill development in planning, selecting, and using assessment to OLS/techniques, and communicating findings.

Equivalent to 459-310. P: REHAB-101, REHAB-102.

REHAB-320 Rehabilitation and Chemical Dependency 3 cr.

Spring Semester

Chemical use and abuse with emphasis on the rehabilitation of persons who are chemically dependent and the historical and sociological implications of drug usage. Equivalent to 459-520.

REHAB-321 Rehabilitation of Public Offenders 3 cr.

Fall Semester

Emphasis on programs designed to rehabilitate persons who are public offenders and sociological issues connected with the judicial system.

Equivalent to 459-525.

REHAB-325 Rehabilitation and Sensory Disability 3 cr.

Introduction to persons with hearing and visual impairments or both. Methods and techniques used in sensory disability rehabilitation are discussed.

Equivalent to 459-325.

REHAB-326 Rehabilitation and Mental Retardation 2 cr.

Background in mental retardation; vocational evaluation, adult education and adjustment techniques used with adults who are mentally retarded.

Equivalent to 459-585.

REHAB-350 Independent Living 2 cr.

Fall Semester

An overview of independent living programs in this country including evolution, goals, methods of service delivery, and management of the independent living program. Equivalent to 459-550.

REHAB-355 Rehabilitation of the Older Disabled Worker 2 cr.

Develop awareness and understanding of older disabled workers with a focus on implementing rehabilitation planning that enables continued participation in the work force or reinsertion into it following disability. Equivalent to 459-555.

REHAB-360 Assistive Technology 2 cr.

Fall and Spring Semesters

Provision of technology to enhance the lives of persons with disabilities. Delivery system, legislation, and issues related to funding are examined. Specific applications in communication, computers, mobility, and workstations and other technologies are reviewed. Equivalent to 459-560.

REHAB-361 Microcomputer Applications in Rehabilitation 2 cr.

Applications of microcomputer technology and adaptive devices in vocational evaluation, work adjustment, placement and administration.

Equivalent to 459-605.

REHAB-365 Laboratory in Rehabilitation Technology 2 cr.

Spring Semester

Experience utilizing technological aids/devices developed for persons with disabilities. Modify/adapt equipment to meet specific functional requirements. Construct switch/control mechanisms for equipment. Develop prototype solutions to vocational and independent living problems.

Equivalent to 459-565. P: REHAB-360.

REHAB-398 Field Experience in Rehabilitation 1-2 cr.

Off-campus work and study in an approved position to further develop skills and to increase understanding of the challenges and potentials of various rehabilitation careers.

Equivalent to 459-398. P: REHAB-205 with a minimum grade of C, and REHAB-230 with a minimum grade of C. R

REHAB-401 Principles and Techniques of Caseload Management 2 cr.

Fall and Spring Semesters

Principles and techniques of implementing case load management in service of clients of state vocational rehabilitation counseling agencies or rehabilitation facilities. Equivalent to 459-401. P: REHAB-230.

REHAB-402 Management of Non-Profit Organizations 3 cr.

Spring Semester

Principles and practices in the operation of non-profit organizations. Comparison of how non-profit and for-profit operations are affected by organizational structures and authority, budgeting practices, sources of income, personnel issues, strategic planning and program evaluation, and marketing. Application to community agencies. Equivalent to 459-402, 459-602.

REHAB-410 Job Placement Processes 3 cr.

Fall and Spring Semesters

Placement theory and methods used to assist people with disabilities to obtain appropriate employment. Equivalent to 459-410. P: REHAB-230.

REHAB-420 Psychological Testing – People With Exceptional Needs 2-3 cr.

Fall, Spring and Summer

Use of common psychometric tests with specific emphasis on selection, evaluation, administration, scoring, and interpretation of standardized tests for individuals who are disabled, including those from various ethnic and cultural groups. Equivalent to 459-610.

REHAB-452 Group Processes in Rehabilitation Settings 2 cr.

Fall Semester

Theory and application of group processes in rehabilitation settings; direct experience as member and facilitator of a group.

Equivalent to 459-685. P: REHAB-481.

REHAB-460 Rehabilitation in the Private Sector 3 cr.

Spring Semester

Case coordination to support maximum medical recovery and/or vocational rehabilitation of an injured person involved in insurance funded cases. Differences between public and private rehabilitation processes. Interviewing, planning, assessing transferable skills, placing in suitable work, and communicating with other involved individuals. Business practices, professional roles, and ethical issues. Equivalent to 459-601. P: REHAB-310.

REHAB-461 Forensics For the Human Service Professional 2 cr.

Spring Semester

Terminology and practices associated with forensic for human service professionals. Strategies and materials related to preparation for testimony and expert witness testimony in a court of law and other legal settings.

Equivalent to 459-661.

REHAB-462 Disability Management in Business and Industry 3 cr.

Fall Semester

Orientation to workers with disabilities in business and industry. Focus on reducing disability related costs, and the elimination of attitudinal and environmental barriers as they pertain to hiring, productivity, and retention of workers with disabilities. Governmental requirements, linkage between business, community resources, and rehabilitation. Equivalent to 459-587.

REHAB-470 Work Adjustment Services 2-3 cr.

Fall Semester and Summer Session

Principles and procedures of adjustment services. Emphasis upon the change and improvement of behavior. Supervised practical experience in interviewing, behavior observation, individual work adjustment planning, lesson plan development and report writing. Equivalent to 459-670. P: REHAB-310.

REHAB-480 Advanced Rehabilitation Practicum 2-6 cr.

Spring Semester

Advanced experience in service delivery to persons with disabilities in varied agency/service settings related to student's designated rehabilitation concentration. Instructor's consent required. Equivalent to 459-480. R

REHAB-481 Application of Theories in Rehabilitation Counseling 3 cr.

ESC Fall, Spring and Summer

Major theories and techniques used in rehabilitation counseling. Development of skills in the use of basic counseling techniques with individuals who are disabled and including those from various ethnic and cultural groups. Instructor's consent required. Equivalent to 459-680.

REHAB-482 Sexuality and Disability 2 cr.

Investigate sexuality as an integral part of the disability experience. Explore programs, techniques and personal biases in relation to sexuality of persons with disabilities. Equivalent to 459-682.

REHAB-483 Vocational Counseling Issues 2 cr.

Summer Session

Theoretical and applied approaches to vocational counseling and current research in vocational choice and career development as related to vocational counseling.

REHAB-488 Developing Collaborative Partnerships 3 cr.

Fall Semester

Development of professional relationships that are characterized by collaboration and respect for the consumer or student. Role of team members including human service professionals, consumer student, family members, school personnel, and community organization staff in collaborative decision making. Enhanced service delivery responsiveness through application of collaborative principles. Equivalent to REHAB-458, 459-558.

REHAB-498 Field Experience in Rehabilitation 1-2 cr.

Off-campus work and study in an approved position to further develop skills and to increase understanding of the challenges and potentials of various rehabilitation careers. Equivalent to 459-498. P: REHAB-205 with a minimum grade of C, and REHAB-230 with a minimum grade of C. R

SCOUN School Counseling**SCOUN-301 Introduction to Guidance 2 cr.**

Fall, Spring and Summer

Policies and practices of organized guidance programs in educational settings; historical, philosophical and cultural bases for guidance services; guidance techniques for teachers; cooperative efforts of teachers, parents and counselors. Equivalent to 413-401, 413-501.

SCOUN-400 Workshop: Counseling/Psychological Services 1-3 cr.

Fall Semester and Summer Session

Equivalent to 413-600. R

SCOUN-447 Behavior Problems of Children 2 cr.

Spring Semester and Summer Session

Psychological, social and environmental factors contributing to developing child's behavior; cause and treatment of behavioral disorders in children 3 through 12; methods of observing, diagnosing, documenting and interpreting; underlying behavioral dynamics of problem children. Instructor's consent required. Equivalent to 413-647.

SOC Sociology**SOC-110 Introductory Sociology 3 cr.**

GESBSCI SOC ESC Fall, Spring and Summer

Social interaction in human groups; relationships between individual and group; social inequality; basic social institutions, social change and current social trends; the socio-cultural diversity of groups; the infrastructure and interrelationships of social organizations; and alternative theoretical perspectives for explaining these social phenomenon. Equivalent to 387-110.

SOC-215 Sociology of the Family 3 cr.

Fall and Spring Semesters

The family as an institution; history, variations in other cultures, relationships to other institutions, interactions of members at various stages of life cycle. Equivalent to 387-215.

SOC-225 Social Problems 3 cr.

GESBSCI SOC ESC

Sociological analysis of current social problems in the U.S. and the world. Equivalent to 387-225.

SOC-250 Social Psychology 3 cr.

Spring Semester

Theory and application of social interaction; emphasis on communication. Equivalent to 387-250.

SOC-275 Sociology of Gender Roles 3 cr.

ESB Fall and Spring Semesters

Sociological analysis of social roles played by the sexes. Equivalent to 387-275.

SOC-300 Sociology of Technology 3 cr.

GETECH Fall, Spring and Summer

Sociological influences on the structure, function, dissemination, consumption and consequences of science and technology; analysis of science and technology myths, misuses and abuses; perspectives on future trends in technology. Equivalent to 387-550, 387-300.

SOC-315 Criminology 3 cr.

Fall and Spring Semesters

Sociological analysis of structure and function of criminal law, variables of criminal behavior and operation of criminal justice system. Equivalent to 387-515. P: SOC-110.

SOC-325 Sociology of Leisure 3 cr.

Fall and Spring Semesters

Institutional approach to effects of leisure on social structure; values reflected in leisure; problems with increase in leisure resources. Equivalent to 387-525.

SOC-340 Sociology of Work 3 cr.

ESC Fall and Spring Semesters

Human behavior in various types of employment and occupations; trends in U.S. occupational structure. Equivalent to 387-540.

SOC-350 Sociology of Hmong Culture 1 cr.**ESA**

Sociological overview of Hmong cultural values, history, immigration and resettlement experiences, family and clan functions, and spiritual beliefs and practices. Equivalent to 387-550. \$

SOC-360 Sociology of Juvenile Delinquency 3 cr.

Fall and Spring Semesters

Definitions of and trends in deviant behavior among youth; research findings; efforts in prevention, control and treatment. Equivalent to 387-560. P: SOC-110.

SOC-375 Sociology of Minority Groups 3 cr.**ESA Fall and Spring Semesters**

Social/psychological aspects of interaction between majority and minority groups; trends among minorities in the United States.

Equivalent to 387-575, 387-375.

SOC-400 Sociology of Altruism 3 cr.

Fall Semester

Sociological perspective of altruism explored in the context of volunteer public service, and biographies of exemplary public service participants. Acceptance into Honors Program. Equivalent to SOC-400, 387-400.

SOC-416 People Process Organization Cultures 2 cr.

Fall and Spring Semesters

A study of high performing people process culture organizations integrating sociology, applied psychology, and organization behavior subject matter areas.

P: INMGT-400 or PSYC-382.

SOCWK Social Work**SOCWK-205 Introduction to Social Work 3 cr.**

Fall and Spring Semesters

Social work as a profession; history and philosophy of social services; information for teachers, counselors and those interested in the field.

Equivalent to 387-205. P: SOC-110.

SOCWK-420 Child and Family Agencies 3 cr.

Fall and Spring Semesters

Social and legal status of children in American society; various social services designed to optimize child's growth and development; nature and needs of families; family service agencies. Equivalent to 387-420. P: SOC-110.

SOCWK-430 Social Casework Methods 3 cr.

Dynamics of social casework: mobilizing individual capacities and community resources to promote adjustment between client and environment; social change. Equivalent to 387-430. P: SOC-110.

SPAN Spanish**SPAN-103 Elementary Spanish I 4 cr.****GECOMSK LANG ESB Fall and Spring Semesters**

Understanding, speaking, reading and writing in Spanish. Culture of Spanish-speaking peoples, including those in the United States. Grammatical gender, present and past tense verbs, pronouns, adjectives. Supplementary work with audiotapes and computers. Not appropriate for students who have completed SPAN-121 or SPAN-122. Only one Spanish course counts toward Ethnic Studies.

Equivalent to SPAN-122, 329-122, 329-103, SPAN-120, SPAN-121, SPAN-196E, 329-121.

SPAN-104 Elementary Spanish II 4 cr.**GECOMSK LANG ESB Spring Semester**

Second level of understanding, speaking, reading and writing in Spanish. Topics in the culture of Spanish-speaking people, including those in the United States. Compound verb tenses, the subjunctive and commands. Supplementary work with audiotapes and computers. One year of high school Spanish or SPAN-103 is required, or SPAN-122. Equivalent to 329-104.

SPAN-120 Practical Spanish for Mallorca 2 cr.

Fall Semester

First quarter college Spanish for students planning to take Wine and Food Pairing in Mallorca. Pronunciation, basic verbs, possessive and descriptive adjectives, simple questions and answers, basic conversational phrases. Emphasis on food, beverage, and tourist vocabulary, Mallorcan culture. Not available for credit to students who have taken SPAN-121 or SPAN-103.

Equivalent to SPAN-103, SPAN-121, SPAN-196E, 329-121, 329-103.

SPAN-121 Practical Spanish I 2 cr.**ESB Fall, Spring and Summer**

Pronunciation, basic phrases for everyday situations, comprehension and production of short written and spoken sentences, basic grammar summary, introductory vocabulary, language in Hispanic and Hispanic-American cultural context. Not appropriate for students who have completed SPAN-329-103. Only one Spanish course counts toward Ethnic Studies.

Equivalent to SPAN-120, SPAN-103, SPAN-196E, 329-121, 329-103.

SPAN-122 Practical Spanish II 2 cr.**GECOMSK LANG ESB Fall, Spring and Summer**

Second quarter college Spanish. Vocabulary, conversational patterns, irregular present tense verbs, regular and some irregular preterite verbs; object pronouns. Spanish language in the context of Hispanic culture. Not appropriate for students who have completed SPAN-103. Only one Spanish course counts for Ethnic Studies. One semester of high school Spanish or SPAN-121 required. Equivalent to SPAN-103, 329-122, 329-103.

SPAN-201 Intermediate Spanish I 4 cr.**GEHUM FLC ESB Fall, Spring and Summer**

Extensive development of vocabulary including common idioms, aural comprehension, correct pronunciation and recognition of verb tenses. Readings and class discussion based on historical background and contemporary Hispanic life, including Hispanic culture in the United States. Only one Spanish course counts for Ethnic Studies. Two years of high school Spanish or SPAN-104 required. Equivalent to 329-201.

SPAN-202 Intermediate Spanish II 4 cr.**GECOMSK LANG Fall, Spring and Summer**

Complete grammar review of standard Spanish, applicable to both conversational situations and business or personal correspondence. Review of essential vocabulary and phrases. Accuracy and fluency in spontaneous conversation and free composition. Three years of high school Spanish or SPAN-201 required. Equivalent to 329-202.

SPAN-227 Spanish Composition and Conversation I 2 cr.**GECOMSK LANG ESB Fall Semester**

Fifth semester college Spanish. Advanced grammar review. Introduction to composition. Writing paragraphs and short essays. Advanced conversation. Emphasis on native-like pronunciation, vocabulary and structural fluency. Only one Spanish course counts as Ethnic Studies. Four years of high school Spanish or SPAN-202 required. Equivalent to 329-227.

SPAN-229 Hispanic Literature in America 2 cr.**GEHUM FLC ESB** Fall and Spring Semesters

Sixth semester college Spanish. Themes and techniques of Hispanic literature. Vocabulary in Spanish for discussion of a variety of literary genres. Historical and cultural contexts. Emphasis on increasing oral and written fluency in Spanish. Four years of high school Spanish or SPAN-202 required.

Equivalent to 329-229. R

SPAN-304 Latin American Short Story 2 cr.**GEHUM FLC** Fall Semester

Introduction to the 20th and 21st century Latin American short story. Vocabulary and readings in Spanish of prominent authors and distinct literary periods of this genre. Related historical and cultural contexts. Taught in Spanish.

Equivalent to SPAN-396. P: SPAN-202.

SPCOM Speech Communication**SPCOM-100 Fundamentals of Speech 2 cr.****GECOMSK SPKG** Fall, Spring and Summer

Techniques of effective speech: diagnosis of individual needs and training in necessary skills; speaker/listener relations, speech organization, voice, bodily action, language and development of confidence and poise.

Equivalent to 391-100.

SPCOM-101 Forensics 1-2 cr.

Fall and Spring Semesters

Training in speech through instruction in and application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. Equivalent to 391-101. R

SPCOM-102 Forensics 1-2 cr.

Fall and Spring Semesters

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. Equivalent to 391-102. P: SPCOM-101. R

SPCOM-103 Forensics 1-2 cr.

Fall and Spring Semesters

Training in speech through instruction in an application of the principles used in intercollegiate forensics program: oral interpretation and original and limited-preparation events. Equivalent to 391-103. P: SPCOM-102. R

SPCOM-104 Forensics 1-2 cr.

Fall and Spring Semesters

Training in speech through instruction in and application of the principles used in intercollegiate forensics program; specific emphasis on forensics administration. Equivalent to 391-104. P: SPCOM-103. R

SPCOM-200 Persuasive Speaking 2 cr.**GECOMSK SPKG** Fall, Spring and Summer

Advanced techniques of speaking: develop skill in audience analysis, speech composition and delivery of various types of speeches; recognize techniques used daily toward individuals and groups.

Equivalent to 391-200. P: SPCOM-100.

SPCOM-202 Oral Interpretation 2 cr.**GEHUM CRPRF** Spring Semester

Individual and group activities to develop skill in the oral performance of literature; projects in analysis and delivery of literature. Consideration of individual problems. Equivalent to 391-202.

SPCOM-206 Discussion 2 cr.**GECOMSK SPKG** Fall and Spring Semesters

Principles and techniques of discussion; leading and participating in symposium, panel, roundtable and other discussion forms. Equivalent to 391-206.

SPCOM-208 Theory of Communication 3 cr.**GECOMSK SPKG** Fall and Spring Semesters

How people communicate with each other; interpersonal, social, technical and business communication, monographs of various communication theorists. Equivalent to 391-208. P: SPCOM-100.

SPCOM-210 Interpersonal Speech Communication 1-2 cr.**GECOMSK SPKG** Fall and Spring Semesters

Basic aspects of non-structured, informal speech communication; expression of feelings and intentions and processing of relationships. Equivalent to 391-210.

SPCOM-236 Listening 2 cr.**GECOMSK SPKG**

Theoretical analysis and practical application of listening concepts. Emphasis on assessment of individual listening skills and methods of improving personal listening techniques used in occupational and personal relationships.

Equivalent to 391-236.

SPCOM-308 Speech Skills for Business and Industry 2 cr.

Fall, Spring and Summer

Technical speaking; projects in application of speech skills and activities in business and industry. Equivalent to 391-508.

SPCOM-310 Introduction to Speech Correction 2 cr.

Spring Semester

Nature and causes of and therapeutic methods for remediating speech and language disorders. Equivalent to 391-310.

SPCOM-312 Intercultural Communication 2 cr.**ESB** Fall and Spring Semesters

Communication concepts and strategies in a multicultural society with emphasis on the major United States cultural groups: understanding communication norms in one's culture of origin and developing a functional appreciation of the diversity of communication standards among cultures.

Equivalent to 391-312. P: SPCOM-100.

SPCOM-412 Teaching Speech in Middle and Secondary Schools 2 cr.

Fall, Spring and Summer

Preparation for the teaching of speech communication courses and the direction of related co-curricular activities in middle and secondary schools. Speech Teaching minors only. Equivalent to 391-512, 391-412. P: SPCOM-100.

SPCOM-414 Interviewing 1 cr.

Fall and Spring Semesters

Principles and techniques for interviewee in employment interviews.

Equivalent to 391-514.

SPED Special Education**SPED-300 Introduction to Individuals With Cognitive Disabilities 3 cr.**

Fall Semester

Introduction to etiology of mental retardation; psychological, educational, social and vocational aspects; adjustment techniques used in working with mentally retarded persons. Equivalent to 431-585, 431-500.

SPED-301 Learning Disabilities 3 cr.

Spring Semester

Identification, remediation and evaluation of learning disabled; intervention techniques used with adolescents and adults. Equivalent to 431-501.

SPED-316 Psychology of the Exceptional Child 2-3 cr.

Fall and Spring Semesters

History and treatment of exceptional individuals; characteristics and development of children who deviate from the norm: learning disabled, gifted, mentally retarded, socially and emotionally disturbed, abused, speech and language impaired, and those with visual, hearing, orthopedic and chronic health problems.

Equivalent to 431-516, 431-532.

SPED-318 Introduction to Teaching/Assessment in Special Education 2 cr.

Fall, Spring and Summer

Provides one-on-one, supervised experience in teaching youth with exceptional education need (EEN). Provides the initial opportunity for the student to teach a young person with EEN in a supervised setting for 50 hours.

Equivalent to 431-518, 431-562.

SPED-322 Curriculum and Instruction: Functional Living Skills 2 cr.

Spring Semester

Curriculum and instructional techniques for developing basic functional living skills for persons with cognitive disabilities, borderline and severe.

Equivalent to 431-522. P: SPED-300, SPED-430.

SPED-323 Curriculum and Instruction: Academic Skills 3 cr.

Fall and Spring Semesters

Curriculum and instructional techniques for developing academic skills for persons with cognitive disabilities (*borderline and severe*).

Equivalent to 431-523. P: SPED-300, SPED-430.

SPED-324 Curriculum and Instruction: Career and Transition Education 3 cr.

Fall Semester

Curriculum and instruction for persons with cognitive disabilities, borderline and severe, in prevocational career, vocational education, and transition stressing interdisciplinary cooperation. Equivalent to 431-524. P: SPED-300, SPED-430.

SPED-326 Practicum in Special Education 2 cr.

Fall Semester

Off-campus work and study in educational settings with youth with cognitive disabilities borderline (CDB) and/or cognitive disabilities severe (CDS) for a minimum of 50 hours in a supervised setting, utilizing the teaching techniques and methods previously learned. Equivalent to 431-526. P: SPED-318.

SPED-328 Assessment for Individual Education/Transition Plans 3 cr.

ESC Fall, Spring and Summer

Diagnosing behavior and learning problems of students with exceptional education needs. Preparing individual educational and transitional plans based on comprehensive assessments. Equivalent to 431-528. P: REHAB-420.

SPED-400 Workshop: Topics in Special Education 1-3 cr.

Summer Session

Current specialized topics studied through experiential activities.

Equivalent to 431-600.

SPED-430 Inclusion of Students With Exceptional Needs 3 cr.

Fall, Spring and Summer

Inclusion of students with exceptional educational needs in the regular classroom setting. Laws, definition, characteristics, adaptations, strategies and transitional services that pertain to persons identified with: cognitive disability, learning disability, attention deficit hyperactivity disorder, emotional disability, autism, traumatic brain injury, speech and language disorders, visual and hearing loss, physical and other health impairments, and gifted and talented. Minimum cumulative GPA of 2.75. Education majors must have passed PPST. Equivalent to 431-630.

SPED-462 Classroom Management Techniques 3 cr.

Spring Semester

Techniques for motivating handicapped youth, individual and group discipline, behavior modification, educational organization, evaluation, and communication to enhance learning. Equivalent to 431-662.

SPED-480 Student Teaching With Handicapped Youth 4-8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools with normal and handicapped adolescents. Satisf Health, Speech, English.

Equivalent to 431-480. P: SPED-462.

SPED-481 Student Teaching Youth With Cognitive Disabilities 16 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools with cognitive disabilities for a full school semester. Office of Teacher Education permission required. Equivalent to SPED-480, 431-480, 431-481.

P: SPED-318, SPED-326, SPED-462.

SPED-488 Intern Teaching: Special Education 16 cr.

An alternative method of obtaining Special Education student teaching experience. Interns receive license to teach and salaried appointment in a cooperating school for one semester. Office of Teacher Education permission required.

P: SPED-322, SPED-323, SPED-32,4 SPED-326, SPED-462.

SRVM Service Management**SRVM-111 Introduction to Global Service Management 2 cr.**

Principles of service management with emphasis on trends, career opportunities, and global economic impact of service sectors. Equivalent to 245-111.

SRVM-210 Service Operations Management 3 cr.

Examination of the environment in which services operate. The design of service delivery systems is addressed from the perspective of both customer participation and operations efficiency. Equivalent to 245-210.

SRVM-260 Managing Service Learning 3 cr.

Fall and Spring Semesters

Manage service-learning systems that respond to community needs. Address the perspectives of not-for-profit and for-profit delivery systems.

SRVM-346 Seminar in Training and Development 1 cr.

Definition and analysis of high performance service management best practices.

SRVM-354 Services Marketing Management 3 cr.

Fall, Spring and Summer

Marketing management concepts, issues and terminology unique to the service sector. Strategies used by service marketers will be analyzed and contrasted with other economic sectors. Equivalent to 245-354. P: HT-251 or BUMKG-330.

SRVM-367 International Management 3 cr.

Fall Semester

Theory and practice of managing international organizations, including socio-cultural aspects and group dynamics of international businesses and service organizations. Equivalent to 245-367. P: BUMGT-304.

SRVM-398 Service Management Field Experience 1-2 cr.

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area.

SRVM-410 Electronic Service Management 3 cr.

Overview, identification, and evaluation of service management components of electronic commerce relationships within the market/workplace. Equivalent to 245-410.

SRVM-498 Service Management Field Experience 1-2 cr.

Fall, Spring and Summer

Off-campus work and study in an approved position to better understand the challenges and potentials of various careers in the hospitality area. Must have 90 credits completed.

STAT Statistics**STAT-130 Elementary Statistics 2 cr.**

GEANRSN STAT Fall, Spring and Summer

Concepts and application of probability and statistics: data analysis (*graphical displays, numerical summary measures*); probability and probability distributions; concepts of statistical inference (*estimation and hypothesis testing*). Illustrated with output from statistical computing packages. Equivalent to 354-130.

STAT-320 Statistical Methods 3 cr.

GEANRSN STAT Fall, Spring and Summer

Histograms, mean and standard deviation, combinatorics, probability; binomial, hypergeometric, normal, Chi-square, T and F distributions and their uses; statistical inference; contingency tables, linear models, analysis of variance with appropriate applications. Three years of high school math required, or Math-120 or higher. Equivalent to 354-530. P: 1 courses from subject MATH, from Level 2 except MATH-110 or MATH-118.

Fall and Spring Semesters

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (*estimation and hypothesis testing*); topics in reliability. Equivalent to 354-330. P: MATH-154 or MATH-157.

STAT-330 Probability and Statistics for Engineering and the Sciences 3 cr.

Fall and Spring Semesters

Exploratory data analysis; basic probability, probability distributions, mathematical expectation, sampling distributions; basic statistical inference (*estimation and hypothesis testing*); topics in reliability. Equivalent to 354-330. P: MATH-154 or MATH-157.

STAT-331 Probability and Mathematical Statistics I 3 cr.

Fall Semester

Sample spaces. Probability functions for discrete and continuous sample spaces. Conditional probability and independence. Random variables; probability density and cumulative distribution functions; joint, marginal, and conditional distributions. Expected values, moments, and moment-generating functions. Binomial, hypergeometric, Poisson, normal, and gamma distributions. Equivalent to 354-331. P: MATH-154 or MATH-157. Corequisite: Math-158.

STAT-332 Probability and Mathematical Statistics II 3 cr.

Spring Semester

Sampling distributions, order statistics, introduction to decision theory, estimation, hypothesis testing, nonparametric methods, regression and correlation, analysis of variance. Equivalent to 354-332. P: STAT-331.

STAT-337 Design of Experiments I 2 cr.

Fall Semester

Linear and curvilinear regression, single-factor designs, confidence ellipsoids for means, blocking, Latin and other squares, factorial designs. Equivalent to 354-531. P: STAT-332.

STAT-338 Design of Experiments II 2 cr.

Spring Semester

Fixed-effect, random-effect and mixed models; nested and nested-factorial designs, split-plot designs, confounding in blocks, analysis of covariance, response surfaces, sequential analysis. Equivalent to 354-532. P: STAT-337.

TCS Telecommunication Systems**TCS-103 Communication and Information Technology 3 cr.**

GETECH Fall, Spring and Summer

Limits and possibilities of various communication components and systems applied to the solution of communication problems in business and industry. Intended for general business administration students. Equivalent to 130-103, 130-100.

TCS-281 Data Communications 3 cr.

Fall Semester

Terminology, systems, services, technologies, costs and applications of data communications. Equivalent to 130-281. P: TCS-103.

TCS-283 Protocols and Interfacing Laboratory 3 cr.

Fall and Spring Semesters

Protocols and interfacing laboratory common and de facto standard telecommunication protocols used for interface control, flow control, and for data link control. Diagnose telecommunications interface problems with representative equipment. Equivalent to 130-283. P: TCS-281.

TCS-300 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in telecommunications, providing hands on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 130-500. R

TCS-304 Communications and Information Systems 1-3 cr.

Fall, Spring and Summer

Overview of the communications industry. Use of systems to create, process, transmit, receive and evaluate information. Equivalent to 130-504. P: TCS-103.

TCS-305 Office Automation Technology 3 cr.

Fall, Spring and Summer

Automation information concepts and technology used in office including both communication, storage, and retrieval systems. Emphasis on cost effective selection and implementation problems. Equivalent to 130-505.

TCS-306 Introduction to Telephony 2 cr.

Fall, Spring and Summer

Principles of current technologies, systems, and trends in telephone communication systems design and applications. Equivalent to 130-506.

TCS-307 Artificial Intelligence Applications in Business 2 cr.

Fall and Spring Semesters

Artificial intelligence applications in business and industry with emphasis on office information system characteristics and implementation.

Equivalent to 130-507.

TCS-340 Cisco Networking Academy Program:**Instructor Fast Track 2 cr.**

Summer Session

Fast-track option to prepare the instructor for teaching in the Cisco Networking Academic Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI). Instructor's consent required. Cisco CCNA Certification.

TCS-341 Cisco Networking Academy Program: Instructor I 4 cr.

First in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. Instructor's consent required.

TCS-342 Cisco Networking Academy Program: Instructor II 3 cr.

Second in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. P: TCS-341.

TCS-343 Cisco Networking Academy Program: Instructor III 2 cr.

Third in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. P: TCS-342.

TCS-344 Cisco Networking Academy Program: Instructor IV 2 cr.

Fourth in a four-course sequence preparing instructors for teaching in the Cisco Networking Academy Program, meeting requirements for the Cisco Certified Academic Instructor (CCAI), and preparing for the Cisco Certified Network Associate (CCNA) examination. P: TCS-343.

TCS-381 Data, Voice and Video Systems 3 cr.

Fall Semester

Digital communication theory and application as applied to voice and data systems and the design and management of integrated networks.

Equivalent to 130-381, 130-581. P: TCS-283.

TCS-382 Network Systems Design 3 cr.

Spring Semester

Concepts from communication networks. LAN, MAN, WAN networks. Introduction to LAN switching, ATM and virtual LANS. Designing and integration of LAN switching virtual networking and ATM into today's networks. Telecommunication Systems majors only. Equivalent to 130-582.

TCS-401 Telecommunications Policy and Regulations 3 cr.

Fall and Spring Semesters

Telecommunications policy and regulatory issues, standards and policy setting agencies for national and international markets. Junior level or higher.

TCS-431 Network Operating System: Workstation and Server 3 cr.

Fall and Spring Semesters

Installing, configuring, and administering Microsoft Windows, utilizing the current commercial version of the product for both work stations and servers. Students are required to pass two of Microsoft's Certified Systems Engineer (MCSE) certification examinations as a requirement for this course.

P: TCS-131, TCS-144.

TCS-481 Telecommunications Systems Administration 3 cr.

Fall Semester

Issues and concerns required to manage telecommunications networks and contemporary problems. Telecommunication Systems majors only.

Equivalent to 130-681.

TCS-491 Wireless Systems 3 cr.

Spring Semester

Power measurements; description of waves; impedance calculations using the Smith Chart; types of amplifiers and microwave devices; antenna theory; microwave and wireless communications.

Equivalent to 130-491. P: MATH-153, PHYS-231, PHYS-232.

TECED Technology Education**TECED-160 Introduction to Technology Education 1 cr.**

Fall and Spring Semesters

Survey of the history, philosophy, mission, curriculum, methods, organizations and resources associated with technology education. Equivalent to 190-160.

TECED-205 Teaching Methods**Technology/Vocational Education 2 cr.**

Fall, Spring and Summer

Study of teaching methods in use in youth and adult shop classes. Instruction planning; lesson presentation with video tape equipment; methods of organization and management; instruction aids; professional ethics.

Equivalent to 190-205, 190-205. P: TECED-160.

TECED-260 Curriculum, Methods, and Assessment For Technology Education 3 cr.

Fall Semester

Development of rationales, goals, content outlines, outcomes, objectives, activities, and assessment items.

Equivalent to 190-260. P: TECED-160, EDUC-312.

TECED-325 Technology for Elementary School Children 2 cr.

Fall, Spring and Summer

Development, philosophy, objectives and course organization for industrial arts for the elementary schools. Suitable laboratory work in woods, metals, plastics and drawing. Equivalent to 190-525.

TECED-330 Implementing Technology Education 3 cr.

Fall, Spring and Summer

Converts the theory of contemporary technology education programs into instructional materials, facilities, and strategy suited to the secondary and post-secondary school. Equivalent to 190-530.

TECED-333 Planning Technical/Vocational Laboratories 2 cr.

School shop facility planning; equipment selection, placement, care and management. Equivalent to 190-533. P: TECED-405.

TECED-340 Middle School Technology Education 2 cr.

Fall, Spring and Summer

Reviews trends and activities in the technology education movement. To update instructors to teach middle school offerings. Equivalent to 190-540.

TECED-360 Technology Education Pre-Clinical Experience 1 cr.

Fall and Spring Semesters

Observing, experiencing, evaluating, and analyzing teaching and learning in public school settings. Equivalent to 190-360. P: TECED-160.

TECED-375 Workshop 1-3 cr.

Current specialized topics in industrial education through experiential activities. Instructor's consent required. Equivalent to 190-575.

TECED-390 Lab/Class Management in Technology Education 2 cr.

Fall, Spring and Summer

An overview of principles of facility planning and equipment selection for a variety of curriculum needs. Laboratory and classroom management techniques will be presented with an emphasis on safety requirements and managing various delivery systems used in contemporary programs.

Equivalent to 190-390. P: TECED-160.

TECED-398 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 190-398.

TECED-398E Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 190-398E.

TECED-403 Activities in Technology/Vocational Education 2 cr.

A study and design of learning activities for industrial and vocational education. Learning activities will be developed on selected levels of the cognitive, psychomotor, and affective domains to carry out stated behavioral objectives. An evaluation of the appropriateness of learning activities as presented in contemporary curriculum projects. Equivalent to 190-606.

TECED-405 Curriculum Technology/Vocational Education 2 cr.

Fall, Spring and Summer

Study of curriculum terminology and methods of selecting and organizing content for industrial education courses. A course of study and individualized instruction will be developed by the student for use in teaching a class in industrial arts or vocational education. Equivalent to 190-405. P: TECED-160, TECED-205.

TECED-406 Evaluation in Technology/Vocational Education 2 cr.

Fall, Spring and Summer

For industrial arts and vocational/technical teachers in evaluating program and student performance; basis for student assessment, evaluation of manipulative activity and construction of teacher-made tests as applied to all students (*including those with special needs*). Student evaluation of instructor and instruction. Equivalent to 190-406. P: TECED-205.

TECED-407 Student Teaching in Technology Education 5 cr.

Directed teaching and community experiences in selected off-campus schools. Teaching Certificate Required. Equivalent to 190-407.

TECED-408 Student Teaching Technology/Vocational Education 8 cr.

Fall and Spring Semesters

Directed teaching and community experiences in selected off-campus schools. Satisfactory health, speech and English. Cumulative GPA of 2.25 or better. Equivalent to 190-408.

TECED-409 Student Teaching 16 cr.

Fall, Spring and Summer

Directed teaching and community experiences in selected off-campus schools. OTE permission required. Satisfactory health, speech and English. Equivalent to 190-409. P: TECED-160, TECED-205, TECED-405, TECED-406.

TECED-431 Field Trips to Industry 1-3 cr.

Opportunities are provided for industrial and vocational education majors as well as teachers to accumulate information about industries through local and distant on-site visits to industries. A third credit may be earned by showing evidence of application of data collected in courses being taught.

Equivalent to 190-631. R\$

TECED-437 Organization/Management of Technical Laboratories 2 cr.

Summer Session

Experience in administration, project development and teaching problems associated with industrial education. Equivalent to 190-637. P: TECED-205.

TECED-438 Course Construction 2 cr.

Spring Semester and Summer Session

Directed experience in curriculum development and course of study construction for industrial education teachers; development of behavioral objectives and of instructional materials to help reach these objectives; development of course of study, instructional package/unit of instruction. Equivalent to 190-638.

TECED-460 Advanced Curriculum, Methods and Assessment for Technology 3 cr.

Spring Semester

Development and implementation of lessons, demonstrations, lab activities, evaluations, and classroom management plans.

Equivalent to 190-460. P: TECED-260.

TECED-488 Internship Teaching 2-8 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Equivalent to 190-488.

TECED-489 Internship Teaching 16 cr.

Fall and Spring Semesters

An alternate method of obtaining student teaching experience. Teacher interns receive a license to teach and salaried appointments in cooperating school systems for one full semester. Admission to student teaching.

Equivalent to 190-489. R

TECED-498 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 190-498.

TECED-498E Field Experience 1 cr.

Fall, Spring and Summer Equivalent to 190-498E.

TECH Technology**TECH-230 Exploring Technology 2 cr.**

GETECH Fall, Spring and Summer

Aspects of technology: definitions, present characteristics, history, forecasting, transfer, assessment, impact and systems. Equivalent to 195-530, 195-230.

TECH-320 Technological Advances — Fast Forward I 2 cr.

GEETECH Fall Semester and Summer Session

Outlines industry's rapid advancements in high technology as utilized in the world today. Reference is made to a variety of applications of this technology now and in the future. Equivalent to 195-520.

TECH-321 Technological Advances — Fast Forward II 2 cr.

GEETECH Spring Semester and Summer Session

Current applications of technology in today's society. Discusses how technological advances have affected educators through simulation, society through technological changes such as storing information, television communication and other new technological advances. Equivalent to 195-521.

TECH-332 Futures of Technology 2 cr.

GEETECH Fall Semester

Concepts of future studies as applied to technology. Exploration of possible alternatives. Techniques and skills for the professional user and the citizen consumer. Equivalent to 195-532.

TECH-340 Future of Work 1-2 cr.

Future possibilities as to why people work, who will work, and in what conditions. Project probable work parameters from current trends. Relate past, present, and future to students' individual work situations. Equivalent to 195-540.

THEA Theatre**THEA-131 Theater Practicum .5-1 cr.**

GEHUM CRPRF Fall and Spring Semesters

Participation in acting, stagecraft, lights, sound, makeup, costumes, properties and business in university theater productions. Equivalent to 391-131. R

THEA-232 Introduction to the Theater 3 cr.

GEHUM CRPRF Fall and Spring Semesters

Development of theater arts from ancient times to present; play styles, production methods and audience appreciation; representative plays.

Equivalent to 391-232.

THEA-334 Contemporary Theater 2 cr.

GEHUM CRPRF Spring Semester

Analysis of selected plays; structure, dramatic content and production methods. Equivalent to 391-334.

THEA-336 Stagecraft and Scene Design 2 cr.

GEHUM CRPRF Spring Semester

Technical problems in producing plays; set design; constructing, painting and handling scenery; stage lighting, makeup, costuming, sound and visual effects, organization of production staff. Equivalent to 391-336. P: THEA-232.

THEA-338 Play Production 2 cr.

GEHUM CRPRF Fall Semester

Directing and acting techniques in play production; selecting, rehearsing and producing scenes for class. Equivalent to 391-338.

TRANS Transportation/Energy**TRANS-202 Transportation Systems 2 cr.**

GEETECH Fall and Spring Semesters

Effects of transportation on society. Comparisons of transportation modes on relative costs, speeds, reliability, efficiency, and more. Examination of vehicle structures, propulsion, suspension, guidance, control and support systems. Equivalent to 186-202.

TRANS-203 Transportation Systems Lab 1 cr.

Fall and Spring Semesters

Applications and reinforcement of transportation modes. Special projects and field trips. Equivalent to 186-203.

TRANS-204 Energy Technology 2 cr.

GEETECH Fall and Spring Semesters

The nature of energy, its discovery, conversion, and harnessing. Economic, environmental, political and social ramifications of energy-related choices.

Equivalent to 110-504, 186-504, 186-204.

TRANS-205 Energy Technology Lab 1 cr.

Fall and Spring Semesters

Mechanical, electrical, fluid and thermal power projects.

Equivalent to 110-504, 186-504, 186-205. P: TRANS-204.

TRANS-331 Private Pilot's Ground School 3 cr.

Fall and Spring Semesters

Preparation for F.A.A. private pilot's certificate: airplane utility, flight manuals, safety, federal aviation regulations, navigation, communication, weather, general aircraft operation and flight theory. Equivalent to 110-631, 186-631.

TRANS-357 Principles of Technology I 3 cr.

Fall, Spring and Summer

Contemporary applications of the principles governing force, work, rate, resistance, energy, power, and force transformers in mechanical, electrical, fluid and thermal systems. Technical content especially appropriate for educational applications. Equivalent to 110-557, 186-557.

TRANS-395 Seminar 1-2 cr.

Fall, Spring and Summer

Specific content is designed to upgrade competencies of participants. Content will change to reflect current state of the art in electricity/electronics or power mechanics. Equivalent to 186-595. R

TRDIS Transdisciplinary**TRDIS-100 Applied Student Leadership 2 cr.**

Fall and Spring Semesters

Applied leadership techniques in interpersonal communications and organizational dynamics developed through classroom experience and practice. Equivalent to 500-100.

TRDIS-101 Seminar in Career Exploration 1 cr.

Fall and Spring Semesters

Identification and analysis of individual career interests, values, needs, skills, and goals. Investigation of resources for career planning and development, including educational programs, job market information and employment opportunities. Development of individual career plans.

Equivalent to TRDIS-196, 500-196.

TRDIS-120 Strategies for Academic Success 2 cr.

Develop study skills strategies, note taking and test-taking techniques, time management, goal setting, and textbook reading comprehension. Application of principles leads to academic success at the university.

Equivalent to EDUC-280, 421-280.

TRDIS-297 Wisconsin in Scotland Field Experience 3 cr.

Fall and Spring Semesters

International field experience as unpaid volunteer in a business, educational, social service, or other non-profit organization in Scotland. Must be enrolled in Wisconsin in Scotland study abroad program. Equivalent to 500-297.

TRDIS-477 International Study 1-16 cr.

Inter-institutional credit exchange for students accepted in university-approved study abroad or international exchange programs offered through the office of international programs at recognized/accredited institutions in other countries. The course may be repeated. Equivalent to 500-477. R

TRHRD Training and Human Resource Development**TRHRD-360 Training Systems in Business and Industry 3 cr.**

Summer Session

Types and purpose of training as related to business and industry. Training analysis, content, delivery systems, evaluation and justification for training. Designed for non-education majors. Equivalent to 198-560.

TRHRD-370 Training Methods in Business and Industry 2 cr.

Fall, Spring and Summer

Identification of training situations where the development and delivery of training is needed. Emphasis is on methods to deliver a training session. Students will be required to make training sessions presentations.

Equivalent to 198-570.

TRHRD-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 198-575. R

TRHRD-389 Training Internship 2-8 cr.

Fall and Spring Semesters

Opportunities for students to learn and practice training management and instructional techniques through activities and experiences in a training department. Objectives commensurate with student's background and field of training. Activities include designing and implementing training programs in student's major or minor field of study in either industry, business, military or government training programs. Equivalent to 198-589. P: TRHRD-360. R

TRHRD-400 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics in training and human resource development providing hands-on or experiential learning activities. Specific content and title to reflect topic of the workshop. Equivalent to 198-600. R

VTAE Vocational, Technical and Adult Education**VTAE-298 Field Experience 1-2 cr.**

Fall, Spring and Summer Equivalent to 199-298.

VTAE-301 Preservice Workshop for Vocational Educators 1 cr.

Introduction to the basic concepts of teaching courses in Wisconsin Vocational, Technical, and Adult Education. Equivalent to 199-501.

VTAE-302 Principles of Vocational, Technical and Adult Education 2 cr.

Fall, Spring and Summer

Philosophy, organization and administration of vocational, technical and adult education, nationwide, in Wisconsin and on the local level.

Equivalent to 421-402, 199-502.

VTAE-334 Performance Analysis 3 cr.

Fall, Spring and Summer

Analysis techniques utilized in curriculum development. Emphasis on task analysis and related procedures. Includes occupational and needs analysis, competency identification, objective writing and information mapping. Integrates task analysis with a total system for developing and revising vocational curriculum or job training programs. Equivalent to 199-334, 199-534.

VTAE-337 Competency-Based Education—Vocational/Industrial 2 cr.

Fall and Spring Semesters

Competencies for vocational, technical and adult education programs and courses. Development of competency-based education performance indicators in all domains, a competency-based education management system, and basis for competency-based education evaluation. Equivalent to 199-537.

VTAE-346 Seminar 1-3 cr.

Fall, Spring and Summer

Current topics in vocational, technical and adult education with application for personnel in the field. Instructor's consent required. Equivalent to 199-546.

VTAE-359 Technology Impacts Occupational Programs 4 cr.

Summer Session

Presentation of latest technology in communications, manufacturing, construction, and/or transportation which involve concepts from math, science and computer science. Equivalent to 199-559. R

VTAE-360 Cooperative Occupational Education Programs 2 cr.

Spring Semester and Summer Session

Philosophy, organization, coordination and teaching techniques of cooperative education programs in the various vocational areas. Roles, responsibilities and duties of the cooperative teacher coordinator. Equivalent to 199-560.

VTAE-375 Workshop 1-3 cr.

Fall, Spring and Summer

Special topics providing hands-on or experiential learning activities. Specific content and title to reflect the topic of the workshop. Equivalent to 199-575. R

VTAE-398 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 199-398.

VTAE-405 Methods of Teaching Vocational Education 2 cr.

Fall Semester and Summer Session

Competency-based and individualized approach to methods of teaching vocational education. Equivalent to 199-605.

**VTAE-408 Student Teaching in
Vocational, Technical and Adult Education 4-8 cr.**

Directed teaching and community experiences at off-campus, postsecondary institutions. Consent of Program Director. Equivalent to 199-408.

VTAE-438 Course Construction for Vocational Educators 2 cr.

Fall Semester and Summer Session

Competency-based and individualized approach to principles of course construction for vocational educators. Equivalent to 199-638.

VTAE-440 Instructional Evaluation in Vocational Education 2 cr.

Spring Semester and Summer Session

Competency-based and individualized approach to instructional evaluation for vocational educators. Equivalent to 199-640.

VTAE-474 Adult Education 2 cr.

Fall Semester

Philosophy and history of adult education in the United States. Techniques for teaching adults: psychological factors, methods, adult interests and characteristics. Equivalent to 199-674.

**VTAE-488 Vocational, Technical
and Adult Education Internship 1-8 cr.**

Fall, Spring and Summer

Consent of Program Director. Equivalent to 199-488.

VTAE-498 Field Experience 1-2 cr.

Fall, Spring and Summer Equivalent to 199-498.

WS Women's Studies

WS-210 Introduction to Women's Studies 2 cr.

ESB Fall and Spring Semesters

An examination of the experience of women in American society, their past and present contributions and roles, and perspectives on the future.

Equivalent to 300-510, 300-210.

WS-310 Women's Studies Practicum 1-3 cr.

Application of women's and gender studies principles to the development of leadership skills and service priorities in an organizational environment.

P: WS-210.

WS-311 Topics in Women's Studies 1-3 cr.

Exploring, from interdisciplinary perspective, new information and ideas in a selected area of significance to women's studies.

Equivalent to 300-511. P: WS-210. R

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Apparel Production*

● Applied Mathematics and Computer Science

*Actuarial Science
Business Management
Software Development*

● Applied Science

*Technical Sales and Support
Scientific Laboratory Management*

▲ Art

*Graphic Design
Industrial Design
Interior Design
Multimedia Design
Studio Art*

● Art Education

● Construction

● Dietetics

● Early Childhood

*General Program
Certification Program*

● Engineering Technology

*Automation Systems
Facilities
Mechanical Design
Plastics
Production Operations*

● Family and Consumer Sciences Education

*Consumer Affairs
Family/Extension Education
K-12 Family and Consumer Sciences Education/
Family Life Certification*

● Food Systems and Technology

*Food Communication
Food Merchandising and Distribution
Food Science
Food Systems Management*

● General Business Administration

● Graphic Communications Management

● Hotel, Restaurant and Tourism Management

● Human Development and Family Studies

● Industrial Management [distance education]

● Manufacturing Engineering

● Marketing Education

Business Education Certification

● Packaging

■ Psychology

● Retail Merchandising and Management

*Buying/Management
Fashion Marketing
Human Resource Management
Interior Decorating*

● Service Management

● Technical Communication

● Technology Education

● Telecommunication Systems

● Vocational Rehabilitation

*Community Based Rehabilitation
Criminal Justice
Independent Living Rehabilitation
Individualized
Psychiatric Rehabilitation
Recreational Rehabilitation
Rehabilitation Counseling
Rehabilitation Technology
Social Work
Special Education Certification*

● Vocational, Technical and Adult Education

● Bachelor of Science Degree

■ Bachelor of Arts Degree

▲ Bachelor of Fine Arts Degree

Italics indicate concentrations or certifications



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Economics
Economics Teaching*
English Literature
English Teaching*
English Writing
Food Technology
Health and Fitness*
History*
Human Resource Management
Journalism
Lodging Management
Materials
Mathematics*
Physics
Property Management
Psychology
Quality Management
Retailing
Sociology
Spanish
Speech Communication*
Technical Writing
Tourism
Traffic Safety Education*
Vocational Rehabilitation
Women's Studies
*Teaching Minors

◆ Specializations

Disability Accommodation in Business and Industry
Gerontology Certification
International Studies
Professional Writing
Public Relations / Public Information
Spanish
Training and Human Resource Development
Vocational Evaluation / Rehabilitation Technology

◆ Preprofessional Programs

Pre-architecture
Pre-engineering
Pre-law

Campus Guide

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Academic/Administrative Facilities

1. Student Health Center
2. Louis Smith Tainter House
3. Administration
4. Harvey Hall
5. Bowan Hall
6. University Services
7. Millennium Hall
8. Communication Technologies
9. Fryklund Hall
10. Child and Family Study Center
11. Heating Plant
12. General Services
13. Vocational Rehabilitation
14. Library Learning Center
15. Home Economics
16. McCalmon Hall-Education and Human Services
17. Memorial Student Center
18. Merle M. Price Commons
19. Jarvis Hall – Science and Technology Wings
20. Micheels Hall
21. Applied Arts
22. Recreation and Athletic Complex
23. Johnson Fieldhouse
24. Physical Education
25. Burton E. Nelson Field

Residence Halls

- | | |
|---------------------------------|--|
| A. Wigen Hall | F. Antrim-Frogatt Halls |
| B. Hovlid Hall | G. Curran-Kranzusch-Tustison-Oetting Halls |
| C. Fleming Hall | H. South Hall |
| D. Jeter-Tainter-Callahan Halls | I. Hansen-Keith-Milnes-Chinnock Halls |
| E. North Hall | |

Accessibility Symbols and Public Safety

- | | |
|------------------------|---|
| — Slope/Ramp | Walkway across Hwy. 25 |
| - - - Steep Incline | Sidewalks/Bike Route |
| ● Accessible Entrances | Sidewalk |
| ● Electric Doors | Yellow line: Frequently travelled, well-lit sidewalks |
| ■ Curbcuts | ● Public telephones with direct 911 access |
| ● Disabled Parking | |

University Police officers are on duty 24 hours each day.

Parking

During hours of enforcement, all non-metered campus parking requires display of a permit. Permits are available from Parking Services in the University Services Building (6), 817 S. Broadway. If you arrive on campus without a permit, you may call 232-1792 24 hours, every day for parking instructions.

- | | |
|----------------------|----------------------|
| ■ Public Meters | Parking Lots |
| ■ Resident Students | ▲ Motorcycle Parking |
| ■ Resident Students | ● Disabled Parking |
| ■ Campus Permit Lots | |

Parking Regulation

Permit Lots and Meters

Permit enforced: 7 a.m. – 4:00 p.m.; M-F
Meters enforced: 7 a.m. – 5:00 p.m.; M-F
Parking prohibited 2:00 a.m. – 7:00 a.m. daily

Resident Student Lots

Enforced 24 hrs/day; between 9 p.m. Sunday and 1 p.m. Friday

Disabled Spaces, Restricted Areas, Service Areas:

Enforced 24 hours daily

Free Public Parking:

All campus lots are open to the public during those times when permit and meter enforcement is not in effect, and parking is not prohibited.

Getting to UW-Stout



UW-Stout is easily accessible from the east or west on Highways 12 and 29 and from the north or south on Highway 25. Menomonie is located about 60 miles east of Minneapolis – St. Paul and about 260 miles northwest of Milwaukee on Interstate 94 (exit Highway 25 south).

For detailed directions to UW-Stout arts, athletics and conference venues go online to <http://www.uwstout.edu/places.shtml>. View our online campus tour at <http://www.uwstout.edu/tour/>.